

Report

California Commercial Market Share Tracking Study

Prepared for
California Public Utilities Commission

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Table of Contents

- Executive Summary ES-1**
 - ES.1 Introduction ES-1
 - Non-Residential Frame and Telephone Survey Overview* ES-4
 - CMST On-Site Survey* ES-5
 - CMST Contractor Surveys* ES-5
 - ES.2 CMST Lighting ES-6
 - CMST End User Lighting* ES-6
 - CMST Lighting Contractor Survey* ES-10
 - ES.3 CMST Televisions ES-10
 - ES.4 CMST HVAC ES-11
 - CMST End User HVAC* ES-12
 - CMST HVAC Contractor Survey* ES-13
 - ES.5 CMST Conclusions and Recommendations ES-13
 - Lighting* ES-13
 - HVAC* ES-14
 - Additional Research Opportunities Building on Data Collected* ES-16
- 1 Introduction 1-1**
- 2 Commercial Market Share Tracking Objectives 2-1**
 - 2.1 Telephone Survey Research Objectives 2-1
 - 2.2 Commercial Market Share Tracking Research Objectives 2-1
 - 2.3 Commercial Saturation Survey 2-3
 - 2.4 Comparison of the CSS and the CMST 2-4
- 3 CMST Approach and Samples 3-1**
 - 3.1 Sample Design 3-1
 - 3.1.1 *CSS/CMST Telephone Survey Sample Design* 3-1
 - 3.1.2 *CMST On-Site Sample Design* 3-2
 - 3.1.3 *CMST Lighting and HVAC Contractor Sample Design* 3-3
 - 3.1.4 *CSS Sample Design* 3-3
 - 3.2 CMST Telephone Survey 3-3
 - 3.3 On-Site Recruitment 3-5
 - 3.4 Site Characteristics and Business Hours 3-7
 - 3.5 On-Site Measure Specifications 3-7
 - 3.5.1 *CMST Equipment* 3-8
 - 3.5.2 *Non-CMST Equipment* 3-11
 - 3.6 On-Site Weighting Methodology 3-11
- 4 CMST End User Linear Fluorescent Analysis 4-1**
 - 4.1 Sources of Data 4-1
 - 4.1.1 *Phone Survey* 4-2
 - 4.1.2 *On-Site Data* 4-3
 - 4.1.3 *Make and Model Lookups* 4-4

4.1.4 IOU Energy Efficiency Program Tracking Data.....	4-6
4.2 CMST Telephone Survey.....	4-6
4.3 CMST On-Site Survey	4-7
4.3.1 Linear Fluorescent Purchasing Sites.....	4-8
4.3.2 Linear Fluorescent Fixture Purchases.....	4-9
4.3.3 Efficiency Analysis.....	4-10
5 CMST Lighting Contractor Analysis	5-1
5.1 Joint Lighting Contractor Survey	5-1
5.1.1 Measure Cost Study Survey Questions	5-1
5.1.2 Nonresidential Lighting Evaluation Survey Questions	5-2
5.1.3 LED Market Effects Survey Questions.....	5-2
5.2 CMST Lighting Contractor Survey Research Objectives	5-2
5.3 Development of the Lighting Contractor Frame	5-3
5.4 Weighting.....	5-5
5.5 Lighting Contractors Survey Findings	5-6
5.5.1 Lighting Contractors Business Characteristics.....	5-6
5.5.2 Linear Fluorescent Market Share	5-10
5.5.3 Contractor Knowledge and Behavior Due to T12 Phase-Out	5-17
6 CMST Linear Fluorescent Contractor and End User Comparison	6-1
6.1 Sources of Data	6-1
6.2 Results Comparison.....	6-1
6.2.1 Conclusions and Recommendations.....	6-4
7 CMST TV Analysis.....	7-1
7.1 Sources of Data	7-1
7.2 CMST Telephone Survey.....	7-4
7.3 CMST-TV On-Site Survey.....	7-5
7.3.1 Sites Purchasing TVs.....	7-6
7.3.2 TV Purchases.....	7-7
7.3.3 Efficiency Analysis.....	7-7
8 CMST HVAC End User Analysis.....	8-1
8.1 Sources of Data	8-1
8.1.1 Phone Survey.....	8-4
8.1.2 On-Site Data.....	8-4
8.1.3 Make and Model Lookups	8-5
8.1.4 IOU Energy Efficiency Program Tracking Data.....	8-6
8.2 CMST Telephone Survey.....	8-6
8.3 CMST On-Site HVAC Survey	8-7
8.3.1 HVAC Purchasing Sites	8-8
8.3.2 HVAC Purchases.....	8-9
8.3.3 Efficiency Analysis.....	8-10
9 CMST HVAC Contractor Analysis	9-1
9.1 Joint Survey Effort.....	9-1
9.1.1 Measure Cost Study Survey Questions	9-1
9.1.2 Quality Installation and Maintenance Survey Questions.....	9-2
9.1.3 Workforce Experience and Training Survey Questions	9-2

9.1.4 CMST HVAC Contractor Survey Research Objectives.....	9-2
9.2 Development of the HVAC Contractor Frame	9-2
9.3 Weighting.....	9-4
9.4 HVAC Contractor Survey Findings.....	9-5
9.4.1 HVAC Contractor Business Characteristics	9-5
9.4.2 HVAC Contractor Market Share	9-9
10 CMST HVAC Contractor and End User Comparison.....	10-1
10.1 Sources of Data	10-1
10.2 Results Comparison and Recommendations.....	10-1
10.2.1 Recommendations	10-3

List of Figures

Figure ES-1: CMST Study Timeline	ES-3
Figure ES-2: CMST Linear Fluorescent Efficiency Distribution by Year, Fixture Count Shares	ES-7
Figure ES-3: CMST Linear Fluorescent Efficiency Distribution by Size, Fixture Count Shares	ES-9
Figure 3-1: Phone Survey Recruitment Options.....	3-5
Figure 3-2: Recruited CSS and CMST Sites	3-7
Figure 4-1: Sites with CMST-Eligible Linear Fluorescent Technology.....	4-8
Figure 4-2: CMST-Linear Fluorescent Efficiency Distribution, Business Count and Fixture Count Shares	4-12
Figure 4-3: CMST-Linear Fluorescent Year Distribution by Performance Group, Fixture Count Shares	4-15
Figure 4-4: CMST-Linear Fluorescent Efficiency Distribution by Year, Fixture Count Shares	4-16
Figure 4-5: CMST-Linear Fluorescent Efficiency Distribution by IOU, Fixture Count Shares	4-18
Figure 4-6: CMST-Linear Fluorescent Efficiency Distribution by Business Size, Fixture Count Shares	4-23
Figure 4-7: CMST-Linear Fluorescent Efficiency Distribution by Business Size, Business Count Shares.....	4-24
Figure 4-8: CMST-Linear Fluorescent Efficiency Distribution by Participation in the LF HIM, Fixture Count Shares.....	4-27
Figure 4-9: CMST-Linear Fluorescent Efficiency Distribution by Participation in the LF HIM, Business Count Shares.....	4-28

Figure 4-10: CMST-Linear Fluorescent Efficiency Distribution by Year and Participation in the LF HIM, Fixture Count Shares4-32

Figure 4-11: CMST-Linear Fluorescent Efficiency Distribution by New Construction/Remodel, Fixture Count Shares4-36

Figure 5-1: Job Titles of Survey Respondents5-7

Figure 5-2: Number of Lighting Projects Completed in 2011-2012.....5-8

Figure 5-3: Linear Lighting Business as a Percent of C&I Lighting5-10

Figure 5-4: Technologies Installed by Contractors in 2011-20125-11

Figure 5-5: Linear Lighting Market Share by Base and High Efficiency (2011-2012).....5-13

Figure 5-6: Distribution of Linear Technologies by Geographic Region (2011-2012).....5-14

Figure 5-7: Distribution of Linear Technologies by Contractor Size (2011-2012) .5-15

Figure 5-8: Distribution of Lighting Efficiency Sales and Installations by Contractor Size5-16

Figure 7-1: Sites with CMST-Eligible TVs7-5

Figure 7-2: CMST TV Efficiency Distribution7-9

Figure 7-3: CMST TV Efficiency Distribution, by Year.....7-12

Figure 7-4: CMST TV Efficiency Distribution, by IOU7-13

Figure 7-5: CMST TV Efficiency Distribution, by Business Size, TV Count Shares.....7-15

Figure 7-6: CMST TV Efficiency Distribution, by Business Size, Business Count Shares.....7-17

Figure 7-7: CMST TV Efficiency Distribution, by New Construction/Remodel7-20

Figure 8-1: Sites with CMST-Eligible HVAC Systems8-8

Figure 8-2: CMST HVAC Efficiency Distribution.....8-11

Figure 8-3: CMST HVAC Efficiency Distribution by Program Participation.....8-13

Figure 8-4: CMST HVAC Efficiency Distribution by Year8-16

Figure 8-5: CMST HVAC Efficiency Distribution by IOU.....8-18

Figure 8-6: CMST HVAC Efficiency Distribution by Business Size, HVAC Count Shares.....8-20

Figure 8-7: CMST HVAC Efficiency Distribution by Business Size, Business Count Shares8-22

Figure 8-8: CMST HVAC Efficiency Distribution by New Construction/Remodel ..8-25

Figure 9-1: Job Title of HVAC Contractor Respondent9-6
Figure 9-2: Distribution of HVAC Contractor Size by Number of Employees9-7
Figure 9-3: Share of Installations in the Residential and C&I Business for HVAC
Contractors.....9-8
Figure 9-4: Market Share of Small Units by Efficiency9-11
Figure 9-5: Distribution of Efficiency by Geographic Location9-12
Figure 9-6: Distribution of HVAC Installations by Number of Jobs9-13
Figure 9-7: Distribution of Efficiency by Number of Employees.....9-14

List of Tables

Table ES-1: CMST HVAC Estimated Efficiency Distribution ES-12
Table 2-1: CSS and CMST Comparison2-5
Table 3-1: CMST Telephone Survey Shares by Business Type and Measure.....3-4
Table 4-1: CMST Telephone Survey Linear Fluorescent Distribution by Business
Type4-3
Table 4-2: CMST-Linear Fluorescent On-Site Distribution by Business Type4-4
Table 4-3: Share of Businesses Installing Linear Fluorescents Relative to
Number of Sites in Frame4-9
Table 4-4: Number of CMST Fixtures Installed and Average per Business
Installing.....4-10
Table 4-5: CMST-Linear Fluorescent Efficiency Distribution, Business Count and
Fixture Count Shares4-11
Table 4-6: CMST-Linear Fluorescent Efficiency Distribution by Year, Fixture
Count Shares4-13
Table 4-7: T-Test P-Values Comparing CMST-Linear Fluorescent Efficiency
Distribution by Year, Fixture Count Shares4-14
Table 4-8: CMST-Linear Fluorescent Efficiency Distribution by IOU, Fixture
Count Shares4-17
Table 4-9: T-Test P-Values Comparing CMST-Linear Fluorescent Efficiency
Distribution by IOU, Fixture Count Shares4-17
Table 4-10: CMST-Linear Fluorescent Efficiency Distribution by Business Size,
Fixture Count Shares4-19
Table 4-11: T-Test P-Values Comparing CMST-Linear Fluorescent Efficiency
Distribution by Business Size, Fixture Count Shares4-20

Table 4-12: CMST-Linear Fluorescent Efficiency Distribution by Business Size, Business Count Shares.....4-21

Table 4-13: T-Test P-Values Comparing CMST-Linear Fluorescent Efficiency Distribution by Business Size, Business Count Shares.....4-22

Table 4-14: CMST-Linear Fluorescent Efficiency Distribution by Participation in the LF HIM, Fixture Count and Business Count Shares.....4-25

Table 4-15: T-Test P-Values Comparing CMST-Linear Fluorescent Efficiency Distribution by Participation in the LF HIM, Fixture Count and Business Count Shares4-26

Table 4-16: CMST-Linear Fluorescent Efficiency Distribution by Participation in the LF HIM, Fixture Count Shares.....4-30

Table 4-17: T-Test P-Values Comparing CMST-Linear Fluorescent Efficiency Distribution by Participation in the LF HIM, Fixture Count Shares.....4-31

Table 4-18: CMST-Linear Fluorescent Efficiency Distribution by Business Type, Fixture Count and Business Count Shares4-33

Table 4-19: CMST-Linear Fluorescent Efficiency Distribution by New Construction/Remodel, Fixture Count Shares.....4-35

Table 4-20: CMST-Linear Fluorescent Efficiency Distribution by New Construction/Remodel and Year Group, Fixture Count Shares.....4-37

Table 5-1: Electrical Contractor Frame and Lighting Contractor Quota and Survey Completes.....5-4

Table 5-2: Distribution of Contractor Size Based on Number of Employees5-6

Table 5-3: Percent of Contractor Revenue from Lighting Sales and Installations ..5-9

Table 5-4: Residential and Commercial Lighting Sales and Installations in CA (2011-2012).....5-9

Table 5-5: Percentage of C&I Lighting Contractor Business in New Construction vs. Retrofit/Remodel.....5-10

Table 5-6: Linear Lighting Market Share by Base and High Efficiency (2011-2012).....5-12

Table 5-7: Distribution of Linear Technologies by Geographic Region (2011-2012).....5-14

Table 5-8: Contractors Knowledge of T12 Phase-Out and Influence on Customers' Retrofit Decisions5-18

Table 5-9: Contractor Self-Reported Change in Linear Sales and Installations from July 2012 through 2013.....5-19

Table 6-1: Contractor and End User Distribution of Linear Lighting Technologies .6-2

Table 6-2: Contractor and End User Distribution of Linear Lighting Technologies for Specific Linear Measures.....	6-3
Table 7-1: Energy Star Version Number and Eligibility Dates	7-3
Table 7-2: CMST TV Telephone Distribution by Business Type	7-3
Table 7-3: CMST TV On-site Distribution by Business Type.....	7-4
Table 7-4: CMST Sites Installing TVs.....	7-6
Table 7-5: Estimated Number of TVs Purchased 2009-2012 Non-Residential Businesses.....	7-7
Table 7-6: CMST TV Efficiency Distribution	7-9
Table 7-7: CMST TV Efficiency Distribution, by Year	7-11
Table 7-8: T-Test Results Comparing CMST TV Efficiency Distribution, by Year	7-11
Table 7-9: CMST TV Efficiency Distribution, by IOU	7-12
Table 7-10: T-Test Results Comparing CMST TV Efficiency Distribution, by IOU.....	7-13
Table 7-11: CMST TV Efficiency Distribution, by Business Size, TV Count Shares.....	7-14
Table 7-12: T-Test Results Comparing CMST TV Efficiency Distribution, by Business Size, TV Count Shares	7-15
Table 7-13: CMST TV Efficiency Distribution, by Business Size, Business Count Shares.....	7-16
Table 7-14: T-Test Results Comparing CMST TV Efficiency Distribution, by Business Size, Business Count Shares	7-16
Table 7-15: CMST TV Efficiency Distribution, by Business Type, Business and TV Count Shares.....	7-18
Table 7-16: CMST TV Efficiency Distribution, by New Construction/Remodel	7-19
Table 8-1: CMST HVAC Telephone Distribution by Business Type	8-3
Table 8-2: CMST HVAC On-site Distribution by Business Type	8-4
Table 8-3: Estimated Share of Sites Installing HVAC Units.....	8-9
Table 8-4: Estimated Number of HVAC Units Purchased 2009-2012 Non-Residential Businesses	8-10
Table 8-5: CMST HVAC Estimated Efficiency Distribution	8-11
Table 8-6: CMST HVAC Efficiency Distribution by Program Participation by Equipment Count, Site Weighted	8-13
Table 8-7: CMST HVAC Efficiency Distribution by Year.....	8-15

Table 8-8: T-Test Results Comparing CMST HVAC Efficiency Distribution, by Year8-15

Table 8-9: CMST HVAC Efficiency Distribution by IOU by Equipment Count, Site Weighted.....8-17

Table 8-10: T-Test Results Comparing CMST HVAC Efficiency Distribution, by IOU.....8-17

Table 8-11: CMST HVAC Efficiency Distribution by Business Size, HVAC Count Shares.....8-19

Table 8-12: T-Test Results Comparing CMST HVAC Efficiency Distribution, by Business Size, HVAC Count Shares.....8-19

Table 8-13: CMST HVAC Efficiency Distribution by Business Size, Business Count Shares8-21

Table 8-14: T-Test Results Comparing CMST HVAC Efficiency Distribution, by Business Size, Business Count Shares8-21

Table 8-15: CMST HVAC Efficiency Distribution by Business Type, HVAC Count and Business Count Shares.....8-23

Table 8-16: CMST HVAC Efficiency Distribution by New Construction/Remodel..8-24

Table 9-1: HVAC Contractor Frame, Survey Quota, and Survey Completes9-4

Table 9-2: Number of HVAC Installations Completed Annually.....9-7

Table 9-3: Distribution of HVAC Business to New Construction, Remodel/Retrofit, and Maintenance and Repairs.....9-9

Table 9-4: Distribution of C&I New Installations9-9

Table 9-5: Market Share of Small Units by Efficiency.....9-10

Table 9-6: Distribution of Efficiency by Geographic Location9-11

Table 9-7: Distribution of HVAC Efficiency by Number of Jobs9-12

Table 9-8: Distribution of HVAC Efficiency by Number of Employees9-13

Table 10-1: Contractor and End User Distribution of HVAC Efficiency..... 10-2

Table 10-2: Distribution of High Efficiency Installations..... 10-2

Executive Summary

ES.1 Introduction

The Commercial Market Share Tracking Study (CMST) describes the non-residential recent purchase market for Linear Fluorescents, Televisions, and small packaged HVAC units in California. The market for these high priority measures is analyzed using recent purchase information collected from both end users and supply-side actors. The information from supply-side actors provides a broad picture of the current market for Linear Fluorescent lighting and packaged HVAC systems.¹ The Commercial Saturation Survey (CSS) and CMST telephone survey were used to collect self-reported information from end users and to recruit for the CMST on-site survey. The CMST on-site data collection effort led to the development of information on the efficiency level of recent purchases by non-residential customers by IOU, business size, and energy efficiency program participation.² The CMST Study provides the CPUC with a database containing on-site and contractor information on recent purchases of these three high priority measures. The data collected and analyzed by the CMST study will provide the CPUC, IOUs, and the evaluation community with a baseline estimate of the quantity of these technologies purchased and information on the efficiency distribution of recent purchases. Combining the on-site end user information with IOU energy efficiency (EE) program tracking data enables the analysis to determine if the efficiency distribution of these measures differs if the business participated in IOU EE programs.

The study collected information on current purchases using three overlapping data collection efforts:

- A joint CSS/CMST telephone survey collected information from 7,890 businesses.
- A CMST on-site data collection effort collected data on purchases of high priority equipment from 2009-2012.³
 - On-site data was collected at over 500 businesses installing new Linear Fluorescents.
 - On-site data was collected at over 400 businesses installing new Televisions.

¹ There is no supply side actor survey for televisions because there are no easily identifiable contractors installing televisions.

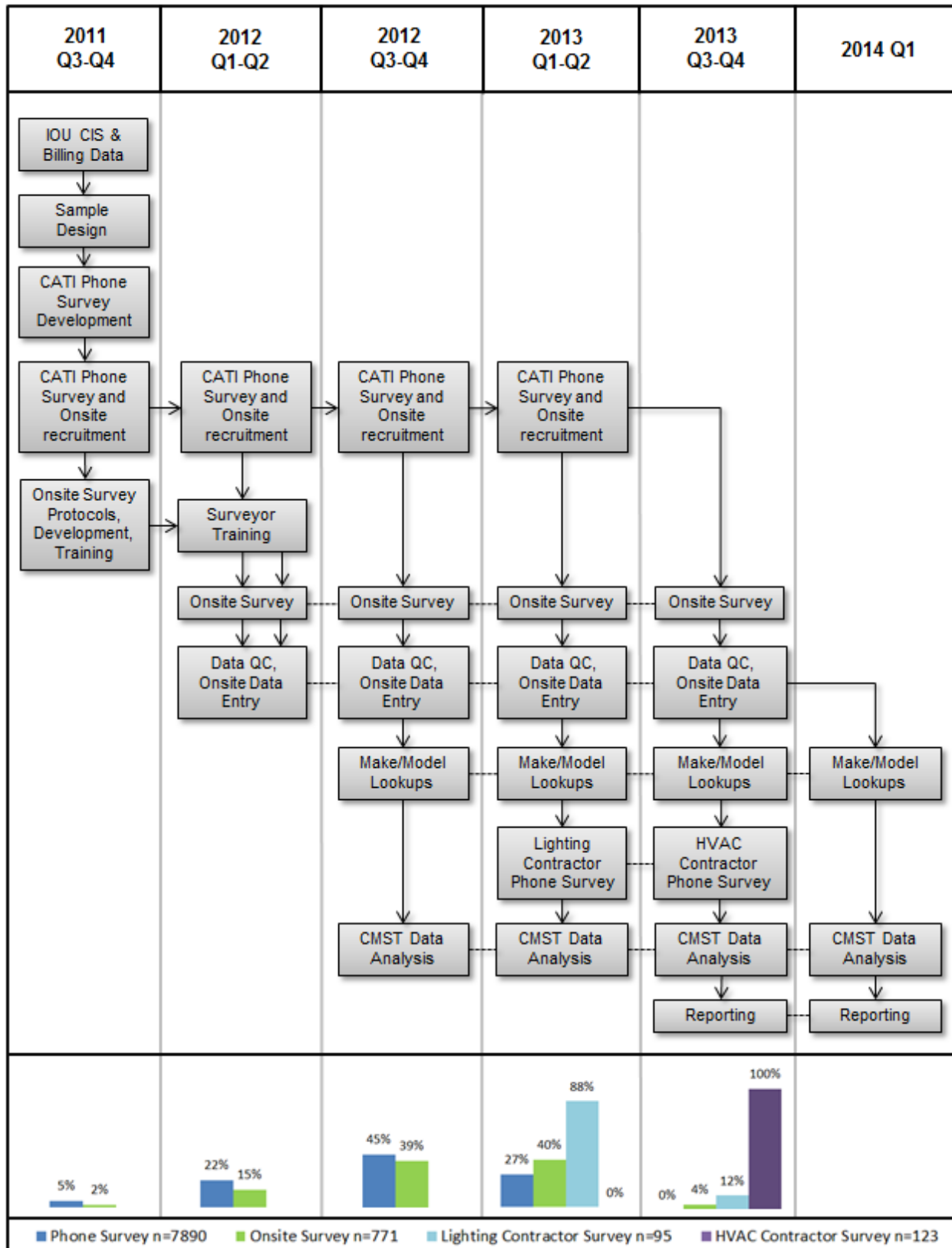
² The CMST on-site data collection effort overlapped with the CSS on-site data collection effort. The majority of the CMST on-site end user sites are also CSS sites. The CMST end user sites may have participated in multiple end use data collection efforts.

³ Given that the on-site data collection effort began in late 2011 and was completed in May 2013 a limited number of measures incorporated into the analysis were purchased in 2013. These measures are classified with the 2012 purchases.

- On-site data was collected at nearly 200 businesses installing new HVAC systems.
- A CMST contractor telephone survey collected information on the efficiency of sales from 2011 to 2012.
 - Self-report data was collected from 95 contractors who install Linear Fluorescents.
 - Self-report data was collected from 123 contractors who install commercial HVAC systems.

The CMST end user telephone and on-site data collection spanned the period from November 2011 to May 2013. The CMST lighting contractor telephone survey occurred in the second and third quarter of 2013 and the HVAC contractor telephone survey was fielded in the fourth quarter of 2013. Subsequent to the finalization of the CMST research plan, the various CMST data collection devices and test survey findings were reviewed by the CPUC and comments received were incorporated into the final version of the multiple data collection devices. The careful development of the research and the data collection devices led to a more efficient collection of the desired information and the study progressed with a clear vision of study objectives. Figure ES-1 provides a description of the activities that were undertaken during this study timeframe.

Figure ES-1: CMST Study Timeline



The CMST and the CSS research projects were designed to be a coordinated effort to collect the data necessary to describe current baseline purchases of select high priority equipment and the current baseline saturation of measures in businesses in the commercial population. The CMST Study provides information on the baseline of recent purchases of select technologies, while the efficiency distribution within the CSS provides information on a broader stock of technology within businesses, regardless of when they were purchased. Having the ability to analyze these data sets, which were collected over the same time period, provides multiple sources of baseline data and a unique and informative source of information for program planners, evaluators, and future potential studies.

This report represents one of three reports developed from the CSS/CMST study focusing on the data collected during the CMST on-site surveys. Additional reports include the Commercial Saturation and Commercial Market Share Tracking Study Telephone Survey Findings (Oct, 2013)⁴ and the California Commercial Saturation Survey (June, 2014). The Study will also provide the CPUC and IOUs with searchable databases enabling additional analyses.

Non-Residential Frame and Telephone Survey Overview

The research team worked with the CPUC and the California IOUs to develop the necessary databases. The sample of sites needed for this study is reliant on the population of electric customers in the Non-Residential Frames (NRF) of Pacific Gas and Electric (PG&E), Southern California Edison (SCE) and San Diego Gas and Electric (SDG&E) (collectively referred to as the IOUs). The IOU data used for the study included the Non-Residential Customer Information System Data (CIS), the Non-Residential Billing data, and the Energy Efficiency (EE) Program Tracking Data. The program participation data were used to characterize the efficiency distribution of recent purchases of high priority measures by program participation.⁵

The telephone survey's primary objective is to help develop an on-site sample for estimating a wide range of commercial customer characteristics. Given that the primary purpose of the telephone survey was to recruit a representative sample for the CSS and CMST on-site surveys, planned phone survey sample sizes were exceeded for some strata where the phone survey was achieving responses but a sufficient number of sites could not be recruited for on-site visits to achieve the CSS on-site sample design objectives.

⁴ The telephone survey report included limited information comparing the customers' telephone survey responses to data collected during on-site visits.

⁵ Information on the distribution of sites in the non-residential frame is available in Chapter 3 of the CSS/CMST telephone survey report.

The telephone survey sample design incorporates 14 business types, three IOUs and five usage strata (Very Small, Small, Medium, Large, and Unknown)⁶ to produce 210 unique strata. The telephone survey asks respondents about recent purchases of Linear lighting technologies, Televisions, and packaged HVAC units. Sites that had recently purchased Linear technologies, TVs, or HVAC units were eligible to participate in the CMST on-site survey. These sites were recruited to participate in the CMST on-site study at the end of the telephone survey. Sites not purchasing new high priority measures were recruited to participate in the CSS on-site study. CMST eligible equipment was often found during CSS on-site data collection. These sites and their new equipment were incorporated into the CMST study.

CMST On-Site Survey

CMST on-site surveys collected data on recent purchases of both Base and High efficiency Linear lighting technologies, Televisions, and small packaged Air Conditioning units. The CMST on-site data came from a combination of businesses identified from the phone survey as CMST sites and CSS sites. The CMST sites were those that claimed during the telephone survey to have purchased and installed new qualified equipment at their facility. The CSS sites are businesses that claimed to have not purchased or installed any new CMST-eligible equipment at their facility, but during the CSS-onsite visit, new CMST-eligible measures were found to have been installed.

The data collected during the on-site at CMST eligible sites included the number of high priority measures purchased, the self-reported year of purchase, and make and model numbers from recently purchased equipment. Make and model lookups served to verify manufacturer names, model numbers, system types, and efficiency ratings. The measure level efficiency information enabled the development of efficiency distributions for the high priority measures. The data on recent purchases and efficiency levels were analyzed in conjunction with site level data (IOU, size, and business type) and information from IOU energy efficiency program tracking databases to help determine the share of High Efficiency purchases reported by these characteristics.

CMST Contractor Surveys

The Joint Lighting Contractor Survey and the Joint HVAC Contractor Survey included survey batteries questioning contractors about the efficiency distribution of their recent sales and installations of CMST Linear lighting technologies and small packaged HVAC units. Efficiency distribution information collected from contractors provides a broad picture of the distribution of measures installed in the non-residential sector in California. The information collected in the

⁶ The Unknown usage category represents accounts found in the CIS that do not have a matching record in the billing data.

Lighting and HVAC Contractor Surveys are triangulated with the end user market share data collected during the CMST on-site surveys.

ES.2 CMST Lighting

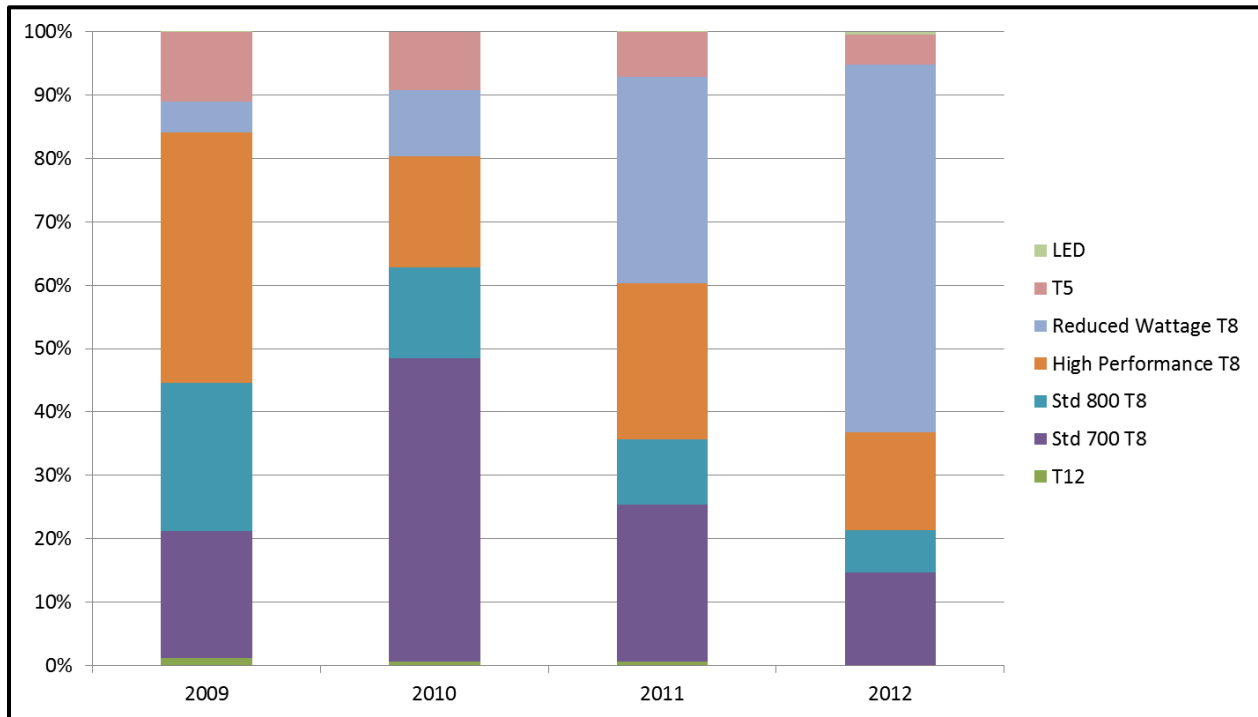
Linear Fluorescent lighting technology was chosen for the CMST analysis due to their prominence in non-residential lighting, their dominance in non-residential EE programs, and recent and on-going changes in Linear lighting standards. The CMST lighting analysis incorporated data collected during 568 non-residential on-site surveys and 95 telephone surveys with lighting contractors. The on-site make and model number information were analyzed to develop a detailed picture of the efficiency of recent purchases. The lighting contractor analysis used self-reported data from contractors to develop a detailed understanding of the efficiency of recent purchases.

CMST End User Lighting

Through the collection of telephone and on-site inventory information describing recent purchases of Linear Fluorescents, this study documents the purchasing behavior of California businesses during 2009-2012. The CMST analysis examines the purchasing behavior by IOU, business size, EE program participation, and year. These variables help to illustrate the Linear Fluorescent market in ways that are of interest to program planners and regulators; how does the energy efficiency classification of Linear Fluorescent purchases differ for energy efficiency program participants and non-participants?

The make and model lookups completed for the CMST enabled a disaggregated look at the efficiency distribution of recently purchased Linear technologies. Figure ES-2 illustrates the efficiency distribution of recently purchased Linear technologies by self-reported year of purchase.

Figure ES-2: CMST Linear Fluorescent Efficiency Distribution by Year, Fixture Count Shares*



* The results presented above have been weighted by site weight.

The efficiency data that was collected and analyzed as part of the CMST-Linear end user analysis leads to the following conclusions:

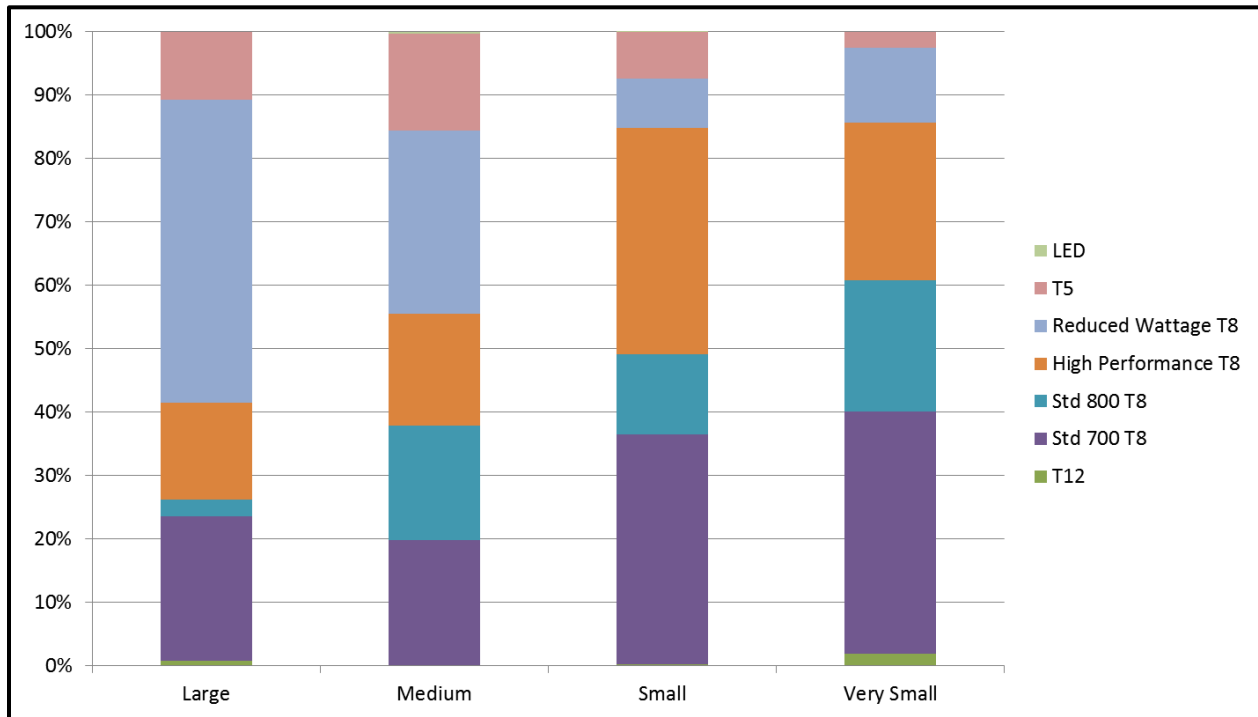
- Slightly more than half of Linear fixtures purchased from 2009 to 2012 by non-residential customers in California are High Efficiency units. High efficiency technologies include High Performance T8, Reduced Wattage T8, T5, and Linear LEDs. Base Efficiency technologies include T12, Standard 700-Series T8, and Standard 800-Series T8.
 - The CMST end user data analysis estimates that 46% of recently purchased Linear lighting fixtures are Base Efficiency and 54% are High Efficiency.⁷
 - The CMST data indicates that Reduced Wattage T8s have experienced a significant increase in installations in California businesses from 2009-2012 (see Figure ES-2).
 - A higher share of Linear Fluorescent purchases in 2011 and 2012 were High Efficiency than those purchased from 2009-2010 (see Figure ES-2).

⁷ The reported efficiency share only includes information for lighting measures whose make and model number were collected and these data led to the development of efficiency information.

- Linear lighting purchasers that have participated in Linear Fluorescent EE programs during the time period 2009-2012 have a higher share of High Efficiency purchases than non-participants.
 - Approximately 77% of the Linear lighting fixtures purchased by Linear EE program participants are High Efficiency equipment while 44% of purchases at businesses that have not participated in Linear Fluorescent EE programs are High Efficiency Linear technologies.⁸
 - The substantial share of High Efficiency purchases by businesses that have not participated in Linear EE programs indicates that additional research is needed to better understand non-participant spillover. The CPUC will be researching spillover during the 2013-2014 evaluation cycle.
 - The substantial share of High Efficiency purchases by businesses that have not participated in Linear EE programs may also indicate that EE programs for Linear lighting measures are not pushing the market forward for some non-residential segments.
- Figure ES-3 illustrates that 74% of the Linear technologies installed in Large businesses were High Efficiency lighting while only 39% of Linear technologies installed in Very Small businesses were High Efficiency.
 - The small share of High Efficiency Linear installations in Very Small businesses may indicate that additional programs are needed to facilitate the installation of High Efficiency technologies in this hard-to-reach segment.

⁸ Program participation for Linear Technologies was determined by the Linear Fluorescent High Impact Measure designation (LF HIM). Custom projects that do not list installed technologies, may have installed Linear Technologies but not have a LF HIM designation. Custom projects are more common in larger sized sites. The share of Reduced Wattage and High Performance T8s in non-participant sites, however, is not higher for Large sites than for Small and Very Small sites. While it is possible that the high share of high efficiency technologies in non-participant sites is impacted by Linear Technologies installed through custom projects, the evidence is not substantial.

Figure ES-3: CMST Linear Fluorescent Efficiency Distribution by Size, Fixture Count Shares*



* **The results presented above have been weighted by site weight.** Large sites have annual usage over 1,750,000 kWh, Medium have greater than 300,000 kWh and less than or equal to 1,750,000, Small have max annual usage greater than 40,000 kWh and less than or equal to 300,000, and Very Small have annual usage less than or equal to 40,000 kWh.

- The CMST end user on-site data for 2009-2012 found that businesses in California were more likely to install High Efficiency Linear technologies when the installations were not associated with new construction or a major remodel (62% of businesses installed High Efficiency) than when Linear technologies were installed as part of new construction or a major remodel (41% of businesses installed High Efficiency).
 - Disaggregating these data into installations in 2009-2010 and 2011-2012 shows that the low High Efficiency share (41%) for new construction/remodel is largely due to a very low High Efficiency share (28%) during the 2009-2010 time period. During 2011 and 2012 the efficiency distribution of these two groups are similar.
 - Developing a better understanding of the observed relationship is important for future program development. Future lighting contractor surveys should attempt to collect information to better understand the new construction and retrofit lighting markets.

CMST Lighting Contractor Survey

The CMST lighting contractor survey is part of the Joint Lighting Contractor Survey. The objective of the CMST lighting contractors' survey was to determine the efficiency and distribution of Linear installations that were sold and installed during the period 2011-2012. The CMST battery questioned lighting contractors about the share of their sales and installations associated with T12, Standard 700-Series T8, Standard 800-Series T8, High Performance T8, Reduced Wattage T8, T5 and Linear LED installation and sales. Since the survey gathered market share information from 2011-2012 and the survey was administered in 2013, contractors were also asked if sales and installation of lighting equipment had changed throughout that period. These questions aim to uncover potential changes in the market share of Linear technologies since the implementation of the Department of Energy's General Service Lighting legislation banning the production of T12s.⁹

The CMST survey questions are designed to shed light on the market share of Linear lighting technologies from the perspective of the contractor. Contractors were asked a series of questions to determine the relative efficiency of Linear lighting equipment installed and sold in California during 2011-2012 and the market share of those technologies.

The CMST contractor Linear lighting efficiency data that was collected and analyzed leads to the following conclusions:

- As expected, only a small share of contractors (20%) report installing T12 systems during 2011 and 2012.
- Over 80% of lighting contractors reported installing Standard 800-Series T8 and T5.
- Using information on the contractors' efficiency share of sales and installations during 2011 and 2012, the study estimates that 38% of sales and installations of Linear technologies are Base Efficiency. Base efficiency technologies include T12 and Standard 700- and 800-Series T8.
- Disaggregating contractors by their number of employees, the efficiency distribution of Linear technologies installed by larger contractors display a higher share of Base Efficiency equipment than for smaller contractors.

ES.3 CMST Televisions

TVs were chosen for the CMST analysis due to recent advances in TV technology that have led to three updates to the ENERGY STAR rating for TVs during the 2009-2012 time period,

⁹ The Energy Independence and Security Act of 2007 banned the production of T12s for commercial purposes starting in July of 2012.

anecdotal evidence that the number of TVs and the share of businesses with TVs has risen over time, and a high degree of uncertainty surrounding TVs in the non-residential sector. The analysis examines the non-residential TV purchasing behavior by IOU, year, and business size. This analysis helps to illustrate the TV market in ways that are of interest to program planners and regulators, showing how the energy efficiency share of TV purchases is evolving.

The CMST-TV study collected make and model number information during the on-site survey. The make and model number information that was collected was looked up using make and model number to efficiency tables provided by ENERGY STAR. The analysis effort classified the recently purchased TVs as not ENERGY STAR eligible or ENERGY STAR Version 3.0, 4.1, or 5.3. For the ENERGY STAR eligible units, higher version numbers represent more efficient units.

The efficiency data that was collected and analyzed as part of the CMST-TV end user analysis leads to the following conclusions:

- Approximately 25% of non-residential businesses self-reported purchasing a TV from 2009-2012.
- Sixty percent of TVs purchased by the non-residential sector from 2009-2012 were High Efficiency. For the CMST study, the definition of High Efficiency was based on ENERGY STAR Version 3.0, 4.1, or 5.3 and these definitions were time dependent. TVs that were Version 3.0 and 4.1 were only counted as High Efficiency options if the TV was purchased during the qualifying ENERGY STAR time period.
- The share of High Efficiency purchases fell in 2012 relative to 2009-2011. The declining efficiency share, however, is likely due to increases in ENERGY STAR standards that eliminated Version 3.0 and 4.1 as a High Efficiency options by the end of 2011.¹⁰
- TV purchasers in the Small and Very Small business size category purchased a higher share of High Efficiency measures than Large and Medium-sized businesses.

ES.4 CMST HVAC

Small packaged and split system HVAC units (under 65,000 Btuh) were chosen for the CMST analysis due to the importance of HVAC measures in the California Strategic Plan and the prevalence of these units in commercial businesses. Collecting information on the current efficiency distribution of small commercial HVAC purchases will help the CPUC and IOUs better understand the current baseline and standard purchase practices and to develop HVAC

¹⁰ While TVs with ENERGY STAR Version 4.1 were still available for purchase in 2012, changes in ENERGY STAR standards in 2011 imply that Version 4.1 was Base Efficiency technology in 2012.

energy efficiency programs needed to help meet the Strategic Plan goals. The CMST HVAC analysis incorporated data collected during 197 non-residential on-site surveys and 123 telephone surveys with HVAC contractors. The on-site make and model number information were analyzed to develop a detailed picture of the efficiency of recent purchases. The HVAC contractor analysis used self-reported data from contractors to develop a detailed understanding of the efficiency of recent purchases.

CMST End User HVAC

Through the collection of telephone and on-site inventory information describing recent purchases of small split and packaged HVAC units, this study documents the purchasing behavior of California businesses during 2009-2012. The CMST end user analysis examines the purchasing behavior by IOU, business size, EE program participation, and year. These variables help to illustrate the commercial small HVAC market in ways that are of interest to program planners and regulators.

The CMST-HVAC analyses collected make and model number information during the on-site data collection effort. Table ES-1 illustrates the efficiency distribution derived from make and model lookups of recently purchased small packaged HVAC units. These data indicate that the majority of HVAC units purchased from 2009 to 2012 by CMST businesses are Base Efficiency (SEER 13).

Table ES-1: CMST HVAC Estimated Efficiency Distribution

Efficiency Level	HVAC Units		Businesses	
	Percent	Relative Precision	Percent	Relative Precision
Base Efficiency	72%	10%	89%	7%
High Efficiency	28%	27%	23%	46%
High Efficiency Tiers Distribution				
14-14.99 SEER	6%		7%	
15-15.99 SEER	10%		5%	
16-16.99 SEER	10%		8%	
> 17 SEER	2%		3%	
n	879		192	

* **The results presented above have been weighted by site weight.** Each level reported represents the different Tiers. The percent of businesses sums to more than 100% because a site can install both Base and High Efficiency units.

The efficiency data that was collected and analyzed leads to the following conclusions:

- The CMST end user data analysis estimates that 72% of purchased units are Base Efficiency. HVAC purchasers that have participated in energy efficiency programs

during the time period 2009-2012 are more likely to purchase High Efficiency units than those who are not EE program participants.

- Forty-seven percent of HVAC units purchased by EE participants are High Efficiency equipment while only 26% of units purchased by customers who have not participated in EE programs are estimated to be High Efficiency systems.¹¹

CMST HVAC Contractor Survey

The CMST HVAC contractor survey is part of the Joint HVAC Contractor Survey. The objective of the CMST HVAC contractors' survey was to determine the efficiency and distribution of small packaged and split system air conditioning units (less than 65,000 Btuh) sold and installed during the period 2011-2012. The CMST battery questioned HVAC contractors about the share of their sales and installations associated with Base Efficiency and High Efficiency units. For this analysis High Efficiency units were broken down into those whose SEER rating were 14-14.99 SEER, 15-15.99, and 16 SEER and higher.

The CMST survey questions are designed to shed light on the market share of small packaged air conditioning systems from the perspective of the contractor. Contractors were asked a series of questions to determine the relative efficiency of air conditioning equipment installed and sold in California during 2011-2012 and the market share of those technologies.

The CMST contractor HVAC efficiency data that was collected and analyzed leads to the following conclusions:

- Using information on the contractors' efficiency share of sales and installations during 2011 and 2012, the study estimates that 78% of sales and installations of small packaged air conditioning units are Base Efficiency or have a SEER rating less than 14.
- Disaggregating HVAC contractors by their number of employees, the efficiency distribution of small packaged air conditioning units installed by larger contractors display a higher share of Base Efficiency equipment than for smaller contractors.

ES.5 CMST Conclusions and Recommendations

Lighting

The end user on-site data collection effort indicates that substantial improvement was made in the lighting efficiency of Linear technologies installed in California businesses from 2009 to

¹¹ The high share of base efficiency HVAC purchases by HVAC EE program participants is due in part to the fact that the HVAC EE programs rebate many HVAC measures and services other than packaged HVAC units. Most of the HVAC EE program participants were not purchasing packaged HVAC units under the program.

2012. During this time period there was a substantial increase in the share of Linear technologies being installed that were Reduced Wattage T8s and a decline in the share of installations that were Standard 700-Series T8s.

The CMST study found that Linear Fluorescent participants in the IOU EE programs installed a larger share of High Efficiency Linear technologies than non-participants. The High Efficiency share of Linear technologies installed by non-participants during 2011 and 2012, however, exceeded 50% of their installations during this time period. These findings have implications for the establishment of baselines for measure savings and should be reviewed by program planners, DEER, and evaluators.

The CMST end user analysis found that Small and Very Small businesses were installing a smaller share of High Efficiency lighting than Large businesses. These findings are consistent with results from the CSS/CMST end user telephone survey analysis that showed that a significantly smaller share of Small and Very Small businesses had participated in IOU EE programs and that smaller businesses were less aware of energy efficiency programs than larger sized businesses. These findings may indicate that the CPUC and IOUs should consider reinstating a hard to reach goal for smaller businesses.

The high level efficiency distributions from the End User and the Lighting Contractor Surveys were similar. Both types of surveys have provided interested parties with valuable information. The speed of change within the lighting market necessitates frequent data collection efforts to help maintain an up to date understanding of current market trends. Lighting contractor surveys represent a cost effective way to frequently collect information on the commercial lighting market. Energy Division staff acknowledge that lighting contractor surveys may provide substantial information to the IOUs, CPUC, and the evaluation community if they reoccur every one to three years. The CMST End User survey represents an approach to collect a unique set of information on the current distribution of recent installations within the non-residential sector by multiple domains of interest. Energy Division staff acknowledge that continuing to implement the CMST on-site lighting survey with large population surveys like the CSS may provide the CPUC, IOUs, and evaluation community with unique information on recent linear lighting purchases.

HVAC

The CMST end user and contractor surveys found that approximately 75% of small packaged HVAC units installed in commercial businesses in California from 2009 to 2012 were Base Efficiency units. These findings indicate that there is substantial unrealized potential for improvements in the efficiency of HVAC units installed in businesses in California. Developing a more complete understanding of the market for small HVAC units within the commercial

sector will help in the creation of programs designed to effectively achieve this unrealized energy efficiency potential.

Additional research should be undertaken to determine if the installation of High Efficiency small packaged HVAC units is cost effective for businesses in California. The high base efficiency share of small HVAC units within the commercial sector may be due in part to existing perceptions of the cost effectiveness of these units. If the units are cost effective, additional marketing may be needed to help encourage the installation of high efficiency units within the commercial sector.

The HVAC Contractor Survey undertaken for this study included batteries collecting information on incremental labor costs, labor training practices, HVAC maintenance practices, and the distribution of sales by efficiency levels. These different batteries of questions provided information on the HVAC market. Future surveys of HVAC contractors, however, should include a battery of questions inquiring about the contractor's knowledge of high efficiency HVAC systems, their marketing of these systems to their clients, their knowledge of available IOU rebate programs, and their perception of their clients' willingness and barriers to adopting high efficiency HVAC systems.

With additional information on the cost effectiveness of small packaged HVAC units and a better understanding of the willingness and barriers as perceived by customers adopting these systems, the CPUC and IOUs should review their existing commercial HVAC programs, working to determine how these programs can be modified to encourage more businesses to install High Efficiency HVAC units.

The high level efficiency distributions from the End User and the HVAC Contractor Surveys were similar. The importance of the commercial HVAC market necessitates frequent data collection efforts while the slow speed of change within the market points to the need to provide time for change between data collection efforts. HVAC contractor surveys represent a cost effective way to frequently collect information on the commercial HVAC market. Energy Division staff acknowledge that HVAC contractor surveys may provide substantial information to the IOUs CPUC, and the evaluation community if they reoccur every two to four years. The CMST End User survey collected a unique set of information on the current distribution of recent installations within the non-residential sector by multiple domains of interest. Energy Division staff acknowledge that continuing to implement the CMST on-site HVAC survey with large population surveys like the CSS may provide the CPUC, IOUs, and evaluation community with unique information on recent HVAC purchases.

Additional Research Opportunities Building on Data Collected

The CSS/CMST on-site survey collected extensive information on the make and model numbers of equipment found on-site. For Linear technologies, HVAC systems, and TVs the make and model numbers were look up to determine the efficiency distribution of recent purchases (CMST) and of existing equipment (CSS). The make and model numbers and the efficiency information were combined with IOU program participation data to determine the EE participation status of businesses that participated in the CSS/CMST. Using the extensive information collected on-site and the program participation information, it is possible to distinguish businesses that purchased their high efficiency Linear technologies and their HVAC technologies inside and outside the IOU EE programs. This set of information has extra value in the evaluation of spillover because it is verifiable information on the efficiency level of recently purchased equipment. These data can be used to further analyze both participant and non-participant spillover. For participants, the information on Linear and HVAC installations can be further analyzed to determine if the business installed additional high efficiency lighting and HVAC measure outside the program – a potential indication of participant “like measure” spillover. For non-participants we know the verified efficiency level of their installations of Linear and HVAC technologies – a potential pool of businesses to survey concerning non-participant spillover. For participants and non-participants additional make and model look ups could be undertaken on refrigeration equipment and additional HVAC equipment to determine if sites installing high efficiency Linear and HVAC technologies also installed other high efficiency equipment outside the IOU EE programs. The CSS/CMST data will be further analyzed as part of the 2013-2014 non-residential spillover evaluation.

The CSS/CMST on-site survey data provides for additional comparisons between the new and existing equipment that was not highlighted in the series of reports. Additional analyses of the existing equipment present in businesses that have recently installed equipment will provide insight into the equipment stocks of businesses that have demonstrated that they have recently updated some equipment. This analysis could include a comparison of existing Linear and HVAC technologies to newly purchased technologies for CMST sites. Additionally, analyses could compare the existing equipment at CMST sites with the equipment distribution for non-CMST sites. These analyses would provide the CPUC, IOUs, and evaluation community with a better understanding of where remaining potential exists and present information on the distribution of equipment at sites that have not recently purchased equipment. This information may help to better define businesses with remaining energy efficiency potential.