2012 CBECS: Preliminary Results and Timeline for Data Release

Joelle Michaels, CBECS Survey Manager

Interagency Sustainability Working Group
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Overview

• CBECS background
• 2012 CBECS preliminary characteristics results
• 2012 CBECS timeline and data release schedule
• Questions?
CBECS provides essential, unique information

• The Commercial Buildings Energy Consumption Survey (CBECS) is the only independent, statistically representative source of national-level data on the characteristics and energy use of commercial buildings

• Mandated by Congress in 1977, it has been conducted every 3 to 5 years since 1979

• The 2012 CBECS is currently wrapping up the final stage of data collection; we are gathering the usage data from energy providers across the country

• 2012 CBECS final sample of over 6,700 buildings, one of the largest CBECS ever
CBECS uses a two-stage survey process

• Phase I: Buildings survey
  – In-person or telephone interview conducted by a trained interviewer
  – Computer-assisted survey instrument (since 1995)
  – Voluntary
  – Approximately 30-45 minutes in length
  – 2012 field period was ~ 8 months long

• Phase II: Energy suppliers survey
  – Follow-up with energy suppliers for about half of the building cases (usage data for the others collected in Phase I)
  – Historically a mail survey; for 2012, it is mainly an internet data collection
  – Mandatory
  – 2012 field period began in March 2014 and will be ending this month (~7 months long)
CBECS requires a multi-frame approach

• No comprehensive source of buildings exists

• Area frame
  – Randomly select small, geographic areas
  – Within them, list and stratify all commercial buildings in those areas
  – Randomly select buildings within strata

• List frames
  – Supplemental lists ensure adequate representation of special buildings (hospitals, govt bldgs, college/universities, airports, other large buildings)
2012 CBECS preliminary results: in recent years, commercial floorspace has grown more rapidly than the number of buildings.

Note: The lower 1992 estimates are adjusted to match the 1995-2012 CBECS definition of target population by removing enclosed parking garages and commercial buildings on manufacturing industrial facilities.
New commercial buildings are larger, on average, than old commercial buildings.

**Average building size by year constructed**

- **Before 1960**: Average = 12,000 sq ft
- **1960 to 1999**: Average = 16,300 sq ft
- **2000 to 2012**: Average = 19,100 sq ft
Buildings over 100,000 square feet make up only about 2% of the building count but about 35% of the total floorspace.

![Chart showing the distribution of building sizes and their contributions to total floorspace.]

- **Over 500,000 square feet**: 8.1% of buildings, 16.3% of floorspace
- **200,001 to 500,000 square feet**: 14.2% of buildings, 16.0% of floorspace
- **100,001 to 200,000 square feet**: 22.1% of buildings, 15.9% of floorspace
- **50,001 to 100,000 square feet**: 16.0% of buildings, 13.8% of floorspace
- **25,001 to 50,000 square feet**: 10.2% of buildings, 16.3% of floorspace
- **10,001 to 25,000 square feet**: 6.0% of buildings, 9.2% of floorspace
- **5,001 to 10,000 square feet**: 15.9% of buildings, 0.7% of floorspace
- **1,001 to 5,000 square feet**: 3.6% of buildings, 0.1% of floorspace
- **1,000 or less square feet**: 8.1% of buildings, 10% of floorspace

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The CBECS building population is diverse and smaller building types are the most common

Average building size for all commercial buildings = 15,720 square feet
About half the building types show an increase in the number of buildings from 2003 to 2012.

The chart shows the number of buildings (in thousand) in different categories from 2003 CBECS and 2012 CBECS. The categories are listed in order of largest to smallest relative growth from 2003 to 2012. Food service is indicated as having a change that is statistically significant at the 90% and 95% confidence levels.

(*) indicates change is statistically significant at the 90% confidence level.
(**) indicates change is statistically significant at the 90% and 95% confidence levels.
Publication of 2012 water usage data is still uncertain

• 2007 CBECS included experimental water data collection; 2012 CBECS built upon that experience

• Initial results show that respondents find it difficult to access and report this information; the rate of reporting is much lower than it was in 2007

• Thorough data review will determine if water usage can be estimated for certain subpopulations

<table>
<thead>
<tr>
<th>Year</th>
<th>Unable to Report Any Water Data</th>
<th>Reported Water Use and/or Cost</th>
<th>Water Not Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>8%</td>
<td>52%</td>
<td>0%</td>
</tr>
<tr>
<td>2012</td>
<td>6%</td>
<td>29%</td>
<td>6%</td>
</tr>
</tbody>
</table>
2012 CBECS timeline spans four years

- **2012**: Stakeholder meetings, Questionnaire design & programming, Field Update, Sampling
- **2013**: Field prep & training, Buildings Survey Data Collection, Monitoring, validation & editing
- **2014**: Supplier Survey Data Collection, Monitoring, editing, weighting, imputation, estimation, modeling, tabulation & data inoculation
- **2015**: Microdata – Characteristics, Flash Estimates – Consumption & Expenditures (C&E), Detailed Tables – C&E, Microdata – C&E

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CBECS home page provides status updates

[www.eia.gov/consumption/commercial](http://www.eia.gov/consumption/commercial)

Projected schedule of 2012 CBECS data releases

<table>
<thead>
<tr>
<th>Building characteristics (BC) preliminary estimates</th>
<th>Released</th>
</tr>
</thead>
<tbody>
<tr>
<td>BC detailed tables</td>
<td>Fall 2014</td>
</tr>
<tr>
<td>BC public use microdata</td>
<td>Winter 2014</td>
</tr>
<tr>
<td>Consumption &amp; expenditures (C&amp;E) preliminary estimates</td>
<td>Spring 2015</td>
</tr>
<tr>
<td>C&amp;E detailed tables</td>
<td>Fall 2015</td>
</tr>
<tr>
<td>C&amp;E public use microdata</td>
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For More Information

CBECS home page | [www.eia.gov/consumption/commercial](http://www.eia.gov/consumption/commercial)

Joelle Michaels, Survey Manager | [joelle.michaels@eia.gov](mailto:joelle.michaels@eia.gov)

Tom Leckey, Director, Office of Energy Consumption and Efficiency Statistics | [thomas.leckey@eia.gov](mailto:thomas.leckey@eia.gov)