

2025 Beverage Calories Initiative: Baseline Report for the National Initiative

PREPARED FOR:

American Beverage Association
Alliance for a Healthier Generation

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March 31, 2016



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EXECUTIVE SUMMARY

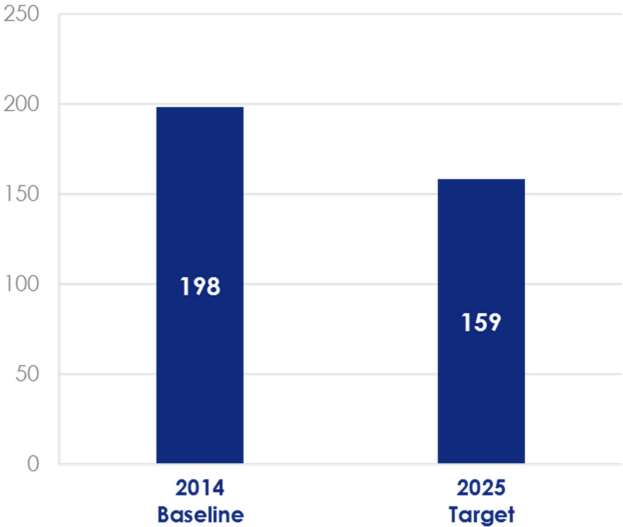
In September 2014, the American Beverage Association (“ABA”), The Coca-Cola Company, Dr Pepper Snapple Group, PepsiCo, and the Alliance for a Healthier Generation announced a commitment to help reduce beverage calories in the American diet. This commitment includes two key goals: (1) reduce per person calorie consumption from liquid refreshment beverages (“LRB”), which includes most non-alcoholic, non-dairy beverages, by 20 percent by 2025 nationally; and (2) achieve similar reductions in eight to ten select communities where those reductions may be particularly difficult to achieve and beneficial. To measure and report progress over time, the ABA retained Keybridge as a third-party evaluator.

This baseline report establishes the 2014 benchmark and 2025 target level for beverage calorie consumption per person per day at the national level. The measurement approach used to establish these levels consists of three key features. First, the approach uses sales volumes as a proxy for consumption. Second, it uses data corroboration to ensure that conclusions reflect changes that are broadly observed and not just reflected in a single data source. Third, the report examines underlying drivers that affect beverage consumption. This analysis uses beverage volume and calorie data from Beverage Marketing Corporation’s DrinkTell database and U.S. Census Bureau population estimates as its primary data sources. The analysis also uses data from the 2015 Beverage Digest Fact Book and the Nielsen Company’s Scantrack dataset to corroborate results and provide additional product-level detail.

Based on these datasets, the analysis estimates that the average American consumed 198.2 LRB calories per day in 2014. Accordingly, the analysis estimates that achieving the national calorie goal will require reducing per capita LRB calorie consumption to 158.5 calories per person per day by 2025.

The analysis also establishes baseline estimates for underlying factors that help to determine overall calorie consumption, including the average number of ounces per beverage and the average number of calories per ounce in different beverage and calorie categories. The baseline estimates provided in this report represent starting points from which future progress toward the national calorie goal will be measured. A Summer 2016 progress report will provide baseline calorie consumption estimates for the selected communities and measure initial progress toward the national and community calorie goals.

Figure 1
Daily Per Capita Beverage Calories
Average LRB Calories Per Person, Per Day



Sources: Beverage Marketing Corporation: DrinkTell Database; U.S. Census Bureau, 2014

SECTION 1

BACKGROUND

In September 2014, the American Beverage Association (“ABA”), The Coca-Cola Company, Dr Pepper Snapple Group, PepsiCo (together, “BCI Companies”), and The Alliance for a Healthier Generation (“the Alliance”) announced a commitment to help reduce beverage calories in the American diet over the next decade. Recognizing the contribution of excess calories to rising obesity rates, the Signatories aim to reduce beverage calories consumed through a two-part initiative called the 2025 Beverage Calories Initiative (“BCI”).¹ The National Initiative will aim to fulfil a national calorie goal to reduce liquid refreshment beverage (“LRB”) calories consumed per person by 20 percent by 2025. The Communities Initiative aims to achieve equivalent reductions over ten years in eight to ten select communities (i.e., the community calorie goal).

1.1 National Initiative

To achieve the national calorie goal, the BCI Companies will employ a variety of strategies to encourage consumers to reduce consumption of beverage calories. These strategies, which draw on the BCI Companies expertise in marketing, distribution, and product innovation, include:

- Working with retailers to more prominently feature reduced calorie beverages, including bottled water, in stores;
- Offering products in smaller containers (e.g., mini-cans);
- Developing new beverage products with fewer calories;
- Reformulating existing beverage products to reduce calories per ounce;
- Investing in media campaigns featuring reduced calorie beverages;
- Promoting calorie awareness through messaging on customer-facing and company-controlled equipment (e.g., vending machines); and
- Engaging in consumer awareness programs to encourage moderation of beverage calorie consumption.

Historical beverage sales volume data demonstrate a number of trends that, if continued, will positively contribute to achieving the calorie reduction goal, including rapid growth of bottled water sales. Other trends, however, such as declining sales volumes of no- and low-calorie carbonated soft drinks, may present challenges to achieving the calorie reduction goal.

Ultimately, reducing beverage calories depends on consumers’ willingness to change consumption habits. Full-calorie beverage consumers will be more willing to change their habits

¹ In a previous version of this report, the initiative was referred to a “Balance Calories Initiative.” The initiative was renamed in May 2017.

if alternative, lower-calorie beverages appeal to them. To reduce LRB calorie consumption by 20 percent by 2025, the industry must find ways to make multiple lower-calorie options including smaller containers, waters, and other reduced calorie beverages more attractive to consumers who primarily drink full-calorie beverages. The Alliance will contribute to this effort by reaching out to consumers to educate them about the importance of balance and moderation.

The success of the National Initiative will also rely on the cooperation of other industry stakeholders. For instance, BCI companies will need to cultivate sustained support from their independent bottling, distribution, and retail partners that may have disparate views about their roles in driving changes in the market. In addition, it will be important that non-participating beverage manufacturers, whose products represent an estimated 22 percent of LRB calories, also engage in calorie-reduction efforts. Without the involvement of the entire beverage industry and its business partners, the national calorie goal will be far more difficult to achieve.

1.2 Communities Initiative

The Communities Initiative aims to reduce LRB calories per person by 20 percent in eight to ten select communities within ten years of their selection. This initiative recognizes that the obesity challenge is more pronounced and that consumer preferences for full-calorie beverages are more entrenched in some communities than in others. To address these disparities, the BCI effort aims to ensure that calorie reductions that occur nationally also occur in communities where the challenge of beverage calorie reduction may be the greatest and the benefits of calorie reduction may be highest.

In 2015, Signatories began working in parts of Los Angeles, Little Rock, and New York City. The specific communities selected represent geographically and demographically diverse markets with lower income populations. While obesity data are not available at a local level, income and poverty data are. Well established correlations between obesity and poverty suggest that these communities likely suffer from high levels of obesity.

In these areas, the Signatories are adopting a “test and learn” approach to find the most effective calorie-reduction strategies. While the efforts taking place in communities are similar to the national strategies, they are being applied with greater intensity. Signatories are also working with local community groups to reinforce messages that encourage beverage calorie reductions.

The Signatories recently selected two additional communities where they committed to reducing beverage calories per person and they will identify three to five more in future years. In these new communities, Signatories will continue to test strategies and apply learnings from the first three communities. Strategies that prove to be successful at shifting consumption will then be applied more broadly to help achieve the national calorie goal.

1.3 Measuring & Monitoring Progress

The Signatories also committed to independent, third-party monitoring of progress over time. In consultation with the Alliance, the ABA held a competitive request-for-proposal process and selected Keybridge to measure and monitor progress toward the national and community calorie goals.

This baseline report provides the starting point for measuring progress toward the national calorie goal. It establishes the 2014 benchmark level and 2025 target for per capita beverage calorie consumption. The first progress report, which will be released in the Summer of 2016 after sales volume data for 2015 become available, will report on progress in 2015 toward the national calorie goal. It will also establish baseline and target LRB calorie consumption levels and measure the first year of progress in the selected communities in Los Angeles, Little Rock, and New York City. Finally, the report will include data that directly measure the implementation of BCI activities, such as those described in the bullet point list in Section 1.1.

SECTION 2

METHODOLOGY SUMMARY

This section summarizes the methodology for measuring progress toward the national calorie goal. The BCI verification approach consists of three key features. First, it uses sales volume as a proxy for consumption. Second, it employs data corroboration to ensure that conclusions reflect changes that are broadly observed and not just reflected in a single data source. Third, it examines underlying trends that affect beverage consumption, including changes in calories per ounce and ounces per serving.

The analysis relies on sales volume data, instead of consumption data. As long as the amount of consumer waste and spillage (i.e., the primary difference between what is sold and consumed) does not significantly change over the measurement period, then changes in beverage sales volumes can serve as a reliable proxy for changes in beverage consumption. Furthermore, using sales volume data enables more up-to-date reporting than would be possible using publicly available datasets that measure consumption, and it avoids the biases associated with self-reported, dietary recall consumption data.

The analysis uses a combination of data from multiple publicly available datasets on beverage sales volume. None of these datasets alone are sufficiently comprehensive to measure all of the key trends relevant to the BCI commitment. To account for this limitation, the analysis combines data to provide as complete and accurate an assessment as possible of changes in beverage sales volumes.

- The primary source of volume and calorie data is the Beverage Marketing Corporation's DrinkTell database ("DrinkTell"), which provides complete brand-level data for all beverages included as LRB, but does not provide information about container sizes.
- Data from the Beverage Digest's Fact Book ("Fact Book") help to corroborate trends in several beverage categories, including carbonated soft drinks, the largest category in terms of both volumes and calories. However, the Fact Book lacks coverage of other beverage categories included in LRB and, like DrinkTell, it lacks container size information.
- The Nielsen Company's Scantrack ("Scantrack") dataset provides detailed SKU-level product information, which allows for an examination of container size changes, though it lacks coverage of important sales channels (e.g., fountain beverages).
- Finally, population data from the U.S. Census Bureau is used to convert total calorie consumption to a per capita basis.

Validation of calorie information relied on a comprehensive, product-level calorie database that integrates calorie information from DrinkTell, Scantrack, and BCI companies, as well as Internet research. This database will be updated throughout the commitment period to reflect new products, product reformulations, and any other necessary revisions.

Appendix A provides a detailed explanation of this approach, including a description of the data, adjustments, key calculations, and definitions of beverage and calorie categories used.

SECTION 3

NATIONAL INITIATIVE RESULTS

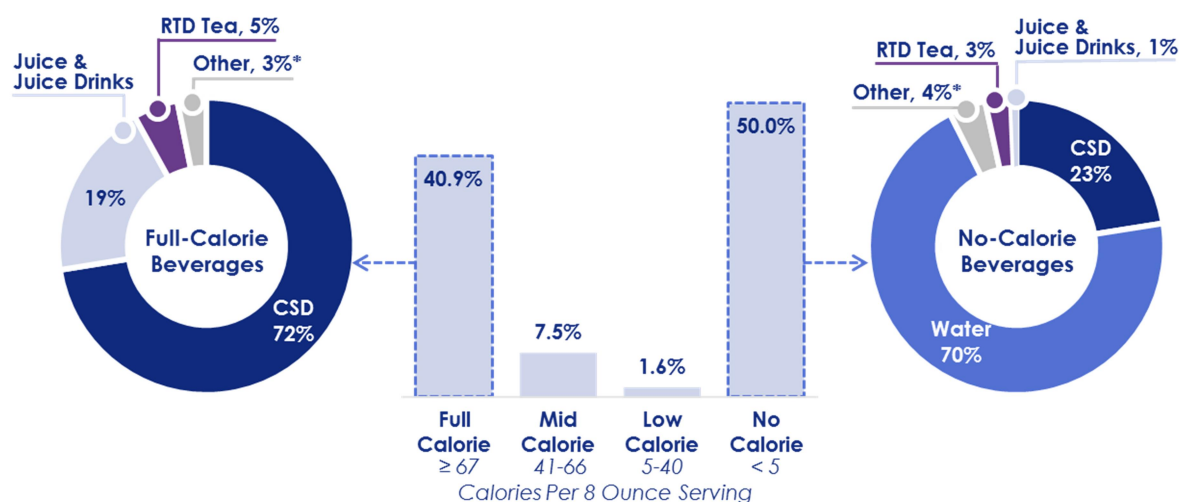
3.1 Setting the Baseline & Target for the National Calorie Goal

This analysis establishes the 2014 baseline and 2025 target for the national calorie goal. Using brand-level volume and calorie data primarily from DrinkTell and the U.S. Census Bureau's 2014 national population estimate, the analysis finds that the average American consumed 198.2 LRB calories per day in 2014.² To achieve the BCI national goal of a 20 percent reduction by 2025, LRB calories consumed will need to decline to 158.5 calories per person per day.

3.2 Measuring the Composition of 2014 Baseline Volumes & Calories

In addition to the per person calorie estimate, this verification effort will monitor changes in the types of beverages consumed over the next decade. As outlined in Appendix A, four calorie categories and eight beverage categories help to illustrate trends across the different types of beverages. As shown in Figure 2, full-calorie (≥ 67 calories per 8 oz.) and no-calorie (< 5 calories per 8 oz.) beverages accounted for the vast majority of beverage volumes. In 2014, full-calorie beverages, primarily carbonated soft drinks ("CSD"), juices, and juice drinks, represented 40.9 percent of LRB volumes. No-calorie beverages, primarily bottled water and CSDs, represented 50.0 percent of LRB volumes. Mid-calorie (41-66 calories per 8 oz.) and low-calorie (5-40 calories per 8 oz.) beverages together represented 9.1 percent of total LRB volumes.

Figure 2
LRB Volume Distribution
 By Beverage Category & Calorie Category

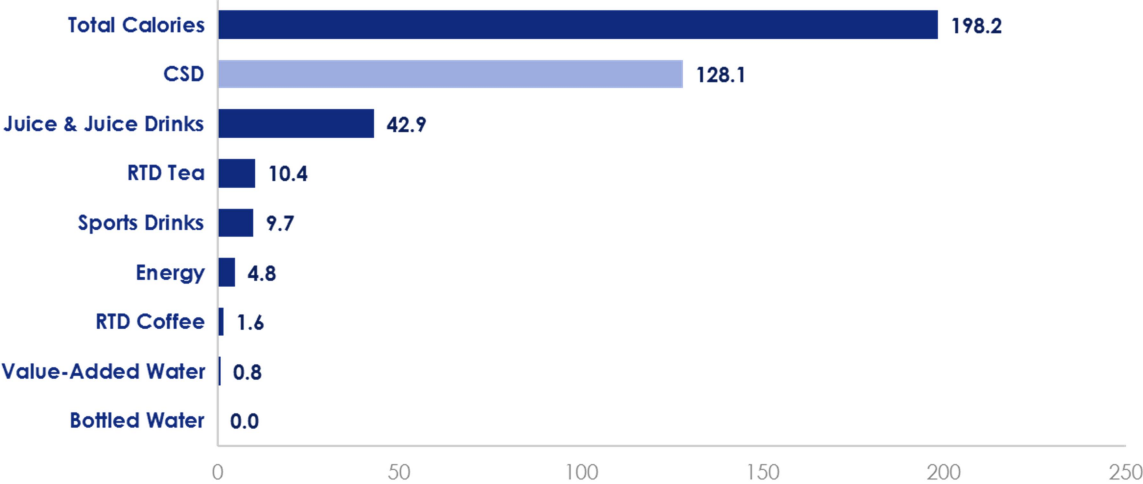


* Other: Energy, Value Added Water, Sports Drinks, and RTD Coffee
 Source: Beverage Marketing Corporation: DrinkTell Database, 2014

² According to the U.S. Census Bureau, the size of the U.S. Population in 2014 was 318,907,401. Source: United States Census Bureau. (2015). Annual Estimates of the Resident Population for the United States, Regions, States, and Puerto Rico: April 1, 2010 to July 1, 2015 (NST-EST2015-01). Washington, DC: U. S. Government Printing Office.

Figure 3 illustrates per person calorie contributions from each beverage category. Of the 198.2 calories consumed per person per day, 128.1 calories (65 percent) came from CSDs. The second largest source of daily LRB calories were juices and juice drinks, which accounted for 42.9 calories per day (22 percent). Ready-to-drink ("RTD") teas and sports drinks each accounted for about 10 calories per day (5 percent).

Figure 3
Average Daily Per Capita Beverage Calories
 By Beverage Category

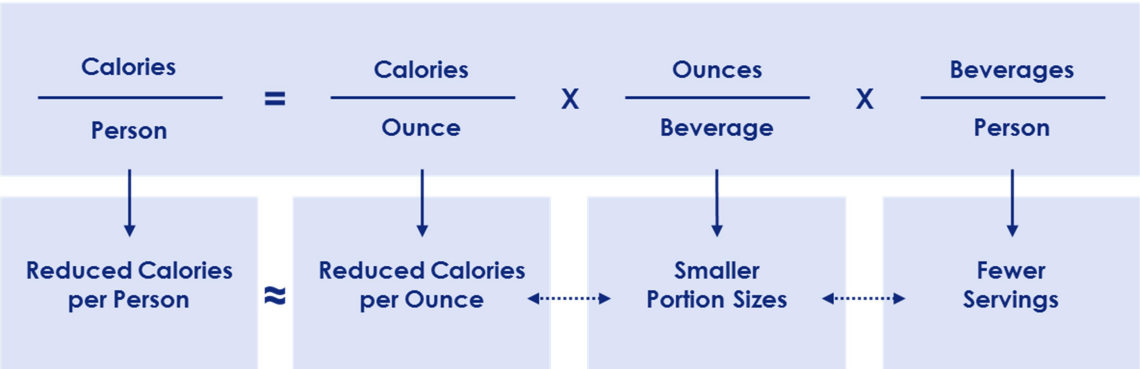


Source: Beverage Marketing Corporation: DrinkTell Database; U.S. Census Bureau, 2014

3.3 Measuring Calorie-Reduction Strategies

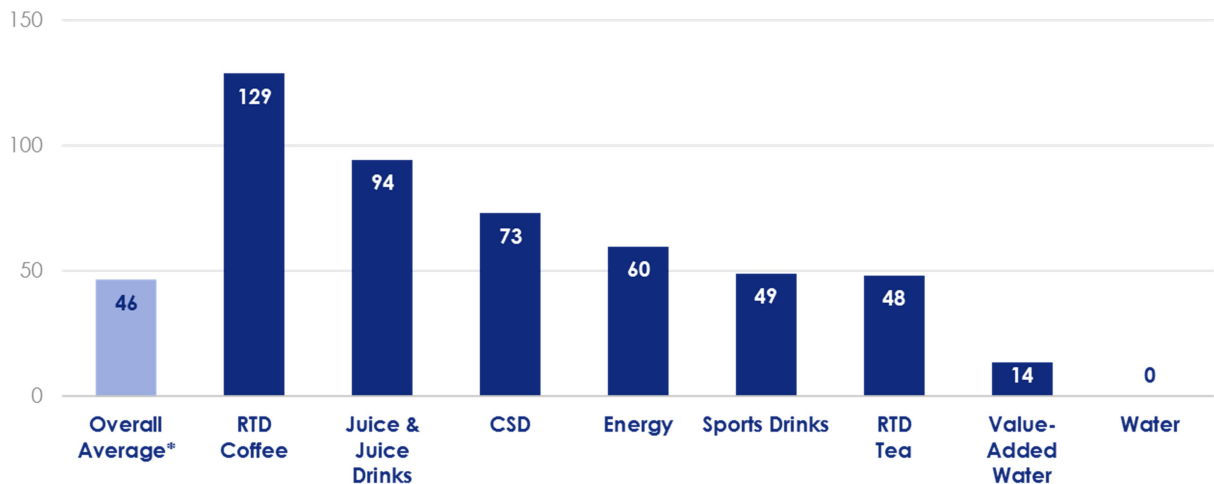
As illustrated in Figure 4, per capita beverage calorie change is a function of three key factors: the number of beverages consumed per person, the number of ounces per beverage, and the number of calories per ounce. A reduction in any of these factors will contribute to the goal of reducing beverage calories per person.

Figure 4
Factors Contributing to Per Person Beverage Calorie Reductions



Many of the strategies that Signatories will implement aim to reduce the average number of calories per ounce. These include reformulating existing products to contain fewer calories, developing entirely new products with fewer calories, and encouraging consumers to shift consumption toward lower calorie beverages. If implemented, any of these strategies would reduce the average number of calories per ounce within their product category (shown in Figure 5) and overall.

Figure 5
Average Calories Per Eight Ounce Serving
 By Beverage Category



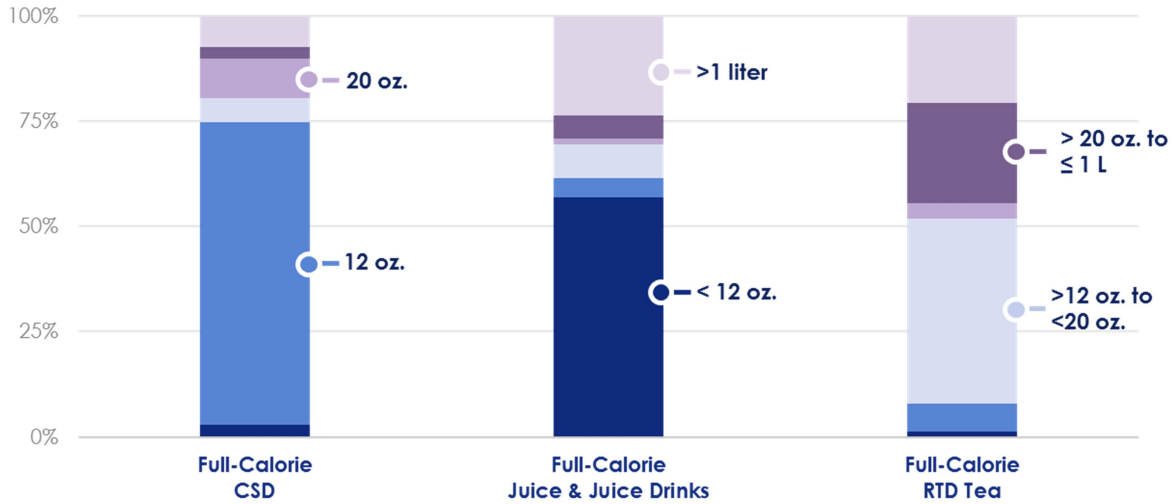
* The overall average is weighted by volume.

Sources: Beverage Marketing Corporation: DrinkTell Database; U.S. Census Bureau, 2014

Signatories may also employ strategies to shift consumers from larger to smaller container sizes. These size changes are particularly impactful when applied to full- and mid-calorie beverages. According to Scantrack data, the average size of beverages sold in containers of less than or equal to one liter is 15.1 ounces. More importantly, the average container size among full-calorie beverages is 13.0 ounces. The most common container size for full-calorie CSDs, the single largest source of LRB calories, is 12 ounces and the average container size is 13.4 ounces. For full-calorie juices and juice drinks, smaller package sizes are much more common and the average container size is 9.6 ounces. Full-calorie RTD teas, on the other hand, are generally sold in larger containers, averaging 18.5 ounces.³ Figure 6 shows the distribution of container sizes across each of these full-calorie beverage categories.

³ A detailed summary table in Appendix B summarizes other trends in container sizes across beverage categories and calorie categories, including mid-calorie beverages.

Figure 6
Container Size Distribution
 Percent of Containers (Not Volumes) by Beverage Category & Calorie Category



Sources: The Nielsen Company; Scantrack Database, 2014

3.4 Data Corroboration

This analysis compares the primary calorie and volume estimates based on DrinkTell data with estimates provided in the Fact Book and calculated from Scantrack data. For carbonated beverages, both DrinkTell and the Fact Book capture sales volume from all channels. As a result, the Fact Book provides a useful point of corroboration for calories in this category. It estimates calories from carbonated beverages – including CSDs and energy drinks – to be 134.0 calories per person per day versus the 132.9 calculated from the DrinkTell dataset. As discussed previously, the Scantrack dataset excludes sales volumes from several channels including fountain, which according to the Fact Book, accounts for about 25% of CSD volumes.⁴ As a result, it is unsurprising that calories per person per day estimates derived from Scantrack are much smaller and not directly comparable with estimates based on DrinkTell.

For non-carbonated beverages, the DrinkTell estimate is much larger than both the Fact Book and Scantrack estimates. The primary reason for differences with the Fact Book's estimates is that the Fact Book does not capture the sales volumes of several non-carbonated beverage categories, including refrigerated and multi-serve shelf stable juices and juice drinks and some refrigerated teas. The primary reason for differences with estimates derived from Scantrack is that Scantrack does not include sales from several major sales channels.

⁴ Beverage Digest Company, L.L.C. (2015). *Beverage Digest Fact Book 2015: Statistical Yearbook of Non-Alcoholic Beverages (20th Ed.)*. Bedford Hills, NY: Editorial Staff of Beverage Digest.

Because total calorie estimates are not expected to align across datasets, they provide only limited value in corroborating 2014 estimates of LRB calories per person. However, it is expected that many of the changes in calories and product mix that must occur to meet the national calorie goal by 2025 will be reflected across each of these datasets. Hence, in future years, comparisons across all three datasets should be more useful in corroborating major changes in the LRB product mix and calories per person.

Figure 7
Data Source Comparison: Per Capita Calories by Beverage Category
Average LRB Calories Per Person, Per Day

Beverage Category	Beverage Marketing Corporation: Drinktell	Beverage Digest: Fact Book*	The Nielsen Company: Scantrack
CSD	128.1	134.0	67.5
Energy	4.8		4.5
Juice & Juice Drinks	42.9	42.0	31.8
RTD Tea	10.4		7.1
RTD Coffee	1.6		1.7
Value-Added Water	0.8		0.8
Sports Drinks	9.7		7.1
Water	0.0	0.0	0.0
SUBTOTAL	198.2	177.0	120.2

* The Fact Book presents total calories for carbonated (including energy drinks) and all non-carbonated beverages.
 Sources: Beverage Digest: Fact Book, 2015, *Table 16: Calories and Beverages 2000-2014* (p. 32).

3.5 Historical Trends in LRB Sales Data

Historical sales volume data from the Beverage Digest Fact Book provide a helpful view of beverage sales trends prior to 2014. According to the Fact Book, which tracks sales volume for most but not all of the beverages included in the BCI, beverage calorie consumption declined from 200 calories per person per day in 2000 to 177 in 2014 – a 0.9 percent average annual reduction. This is about half of the 2 percent average annual reduction that the industry must achieve between 2014 and 2025 to meet the national calorie goal.

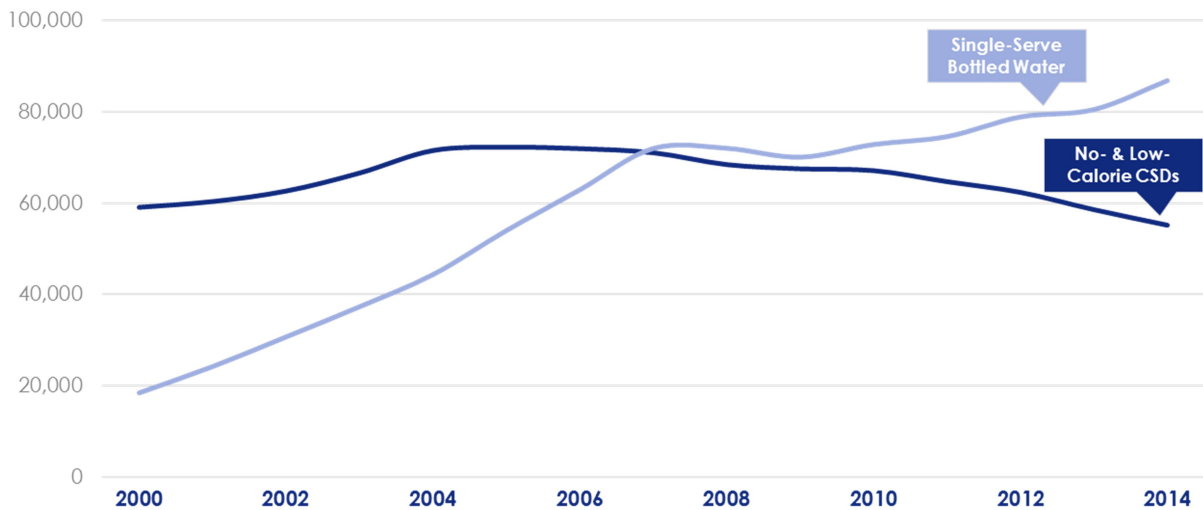
The Fact Book data also show conflicting sales volume trends for the two largest no- and low-calorie beverage types that could serve as alternatives to full-calorie beverages, bottled water and no- and low-calorie CSDs.

- As shown in Figure 8, single-serve bottled water sales volumes grew by 19 percent from 2010 to 2014, continuing an unprecedented and extended growth trend that was briefly interrupted from 2007 to 2010. If bottled water sales continue to grow at their current pace over the commitment period, it would contribute positively toward calorie reductions if some of that increase reflects shifts in consumer preference from higher-calorie beverages to water. There is some concern, however, that bottled water sales volume growth may not continue at its current pace and that it may plateau at some point over the next decade,

as it did briefly from 2007 to 2010. Should this occur, it would represent a significant challenge to achieving calorie reductions.

- In contrast, no- and low-calorie CSD sales volumes fell by 18 percent from 2010 to 2014, an acceleration of a decline that began after sales volumes peaked in 2005. A continuation of this recent trend would make achieving the national calorie goal far more difficult, as consumers will be less willing to reduce their consumption of higher-calorie beverages if they are not interested in lower-calorie alternatives.

Figure 8
Sales Volume Trends, 2000-2014
No- & Low-Calorie CSDs and Bottled Waters; Millions of 8 Ounce Servings



Source: Beverage Digest: Fact Book, 2015

Finally, DrinkTell data for 2014 show that products made and marketed by companies other than the BCI companies represent 22 percent of the LRB calories. While this data point does not reflect a trend, it nevertheless reflects a major BCI implementation challenge. If the number of calories per capita from those products does not change, the BCI companies would need to reduce calories consumed from their own beverages by more than 25 percent by 2025, a much more ambitious target than the 20 percent reduction needed if reductions are achieved across beverages from all manufacturers. This challenge highlights the importance of engaging the full beverage industry in this effort.

SECTION 4

COMMUNITIES INITIATIVE OVERVIEW

4.1 Community Selection

The purpose of the Communities Initiative is to ensure that the calorie reductions that occur nationally also occur in locations where the benefits of reductions may be highest (i.e., locations where obesity and overconsumption of calories from both food and beverages are high). These are also locations where the Signatories believe there are low levels of interest in and/or access to reduced calorie beverages.

To identify potential target locations, the ABA commissioned the Nielsen Company to compare the composition of beverage sales (i.e., distribution and sales of no- and low-calorie beverages relative to full-calorie beverages) across the metropolitan markets that Nielsen monitors. Finding that disparities across these large geographic areas were relatively small, the ABA focused instead on identifying potential communities within the metropolitan markets.

To select the initial communities for launching the Communities Initiative in 2015, the Signatories relied on a combination of socioeconomic data, discussions with potential community partners, and consultations with local sales teams who could confirm whether there is low access to and/or interest in reduced calorie beverages in potential communities. Because they hope to test different calorie-reduction approaches and learn which are most effective in a diverse range of communities, an important consideration was geographic and demographic diversity. The Signatories selected communities that include multiple zip codes in Los Angeles-East Los Angeles, California and Little Rock, Arkansas. In May 2015, they selected a third community in New York City, New York that includes multiple zip codes in both the Bronx and Brooklyn.

To select additional communities, the evaluation team identified a list of potential health and socioeconomic measures that are available with differing geographic specificity. The Signatories agreed that obesity rates were the best of these measures to use as a starting point for selecting additional communities. Using obesity rate rankings by state, county, and metropolitan statistical area, the Signatories identified geographies with the highest obesity rates as top areas for consideration. They then narrowed those lists to areas where they are aware of potential community partners and where they have more direct control of or cooperation with local bottling and sales operations. The first communities selected using this process are a rural four-county area in Mississippi and a two-county area in Alabama that includes Montgomery. These areas include counties with the second and fourth highest obesity rates in the nation.⁵ Three to five additional communities will be selected in coming years using a similar process.⁶

⁵ Centers for Disease Control and Prevention. Behavioral Risk Factor Surveillance System, 2012.

⁶ If any of the next three to five communities selected include a set of zip codes within large urban centers, similar to the first three selected communities, additional measures may be needed to identify communities. Obesity rates are generally not available for small geographic areas. Therefore, other socioeconomic measures that are both highly correlated with obesity and available for local geographies, such as income or poverty levels, may be used.

4.2 Measurement Challenges

Measuring LRB calorie consumption per person at the local level requires different data sources and a different approach than the measurement for the national goal. First, two of the key data sources that estimate beverage sales volumes, DrinkTell and the Fact Book, provide data at a national level only. The Scantrack dataset, in contrast, is designed for sales analysis of individual metropolitan markets (e.g., the greater Los Angeles metropolitan area). The Communities Initiative, however, is implemented in geographies that are defined as certain zip codes or counties and are much smaller than the metropolitan markets for which Scantrack estimates sales volume.

Because all of these datasets lack the geographic specificity needed, the analysis of the Communities Initiative must rely on other data sources. Unfortunately, other potential sources such as the Centers for Disease Control and Prevention's National Health and Nutrition Examination Survey ("NHANES") do not include a sufficient number of respondents in any of the selected communities to form a representative sample.

In the absence of publicly available datasets for beverage consumption or sales volume, other options for measuring the progress of the Communities Initiative include custom surveys of local populations and confidential sales volume data from beverage manufacturers and retailers. The option of custom surveys was eliminated due to a variety of factors, including (1) the biases associated with dietary recall and self-reporting and (2) the resource intensity of conducting surveys across many markets.

Accordingly, future analysis will rely on an approach that uses zip-code level sales volume data provided by the BCI companies and retailers located in the selected communities that report their sales to Nielsen for use in the Scantrack dataset. The primary benefit of this approach is that it draws upon granular data that is already collected by the BCI companies and retail establishments. The primary limitation of this approach is that sales data from beverage companies other than the Signatories, which nationally account for an estimated 22 percent of beverage calories, will only be available for retail stores that are included in the Nielsen Scantrack dataset. Other limitations include the implicit assumptions that the people who purchase beverages in the selected communities also live there, and that the people who live there buy all of their beverages at establishments in the selected communities. The first progress report will provide a more detailed explanation of the most important limitations of this approach and the methods used to account for them.

The progress report will also include the results of store audits that were conducted at a representative sample of retail stores (e.g., supermarkets, drug stores, convenience stores, and bodegas) within the first three selected communities. These audits measured the presence and prominence of all LRB products on store shelves, displays, coolers, and pallets. Initial surveys were conducted in the summer of 2015 and represent a starting point from which future reports will measure progress in increasing availability and prominence of reduced calorie beverages within stores in the selected communities.

APPENDIX A: DETAILED METHODOLOGY

I. INTRODUCTION

The core objective of the BCI verification effort is to measure progress toward the goal of reducing per capita beverage calorie consumption by 20% by 2025. This detailed methodology expands on the Methodology Summary offered in Section 2. It is organized as follows. Section 2 discusses the general analytical approach for monitoring and verifying progress toward the national calorie reduction goal. Section 3 presents terminology relevant to the agreement and data sources. Section 4 discusses the strengths and limitations of each data source. Section 5 outlines the specific methods, including data adjustments and key calculations.

II. ANALYTICAL APPROACH

2.1 Using Sales Volumes as a Proxy for Consumption

The key challenge in measuring progress toward the national calorie goal is measuring beverage consumption. In future years, the analysis of BCI progress will use consumption data collected through the Centers for Disease Control and Prevention's National Health and Nutrition Examination Survey ("NHANES") as a corroborative data source. It is not used as a primary data source or referenced in this baseline report for two reasons. First, the NHANES dataset is only available with a significant lag (i.e., data from the 2013-14 survey are not yet available), and its use would not allow for up-to-date progress reports. Second, NHANES data are based on dietary recall surveys. These methods are limited by biases associated with self-reporting. For example, people often have a difficult time recalling exact quantities and types of beverages consumed. Limitations around the accuracy of self-reported dietary intake are well documented.^{7,8}

This analysis relies instead on beverage sales volumes as a proxy for beverage consumption. Using sales volume data requires the assumption that beverage calories sold equals beverage calories consumed. The primary difference between sales volumes and consumption is waste, both pre-consumer and consumer. BCI companies and independent data suppliers estimate that pre-consumer waste, such as beverages that expire or are damaged prior to final sale, is small (i.e., likely a couple of percentage points) and confirm that most of it is netted out of reported sales volumes. Consumer waste is more difficult to quantify, but even if substantial, it would not affect estimates of the percentage change in calories consumed, as long as the share of beverage waste does not change significantly over the commitment period.

2.2 Measuring Sales Volumes with Multiple Data Sources

Aside from waste, differences between reported sales volumes and actual consumption could result from inaccurate sales volume estimates. To minimize this risk, this analysis uses a

⁷ Westerterp, K.R., & Goris, A.H.C. (2002). Validity of the assessment of dietary intake: Problems of misreporting. *Current Opinion in Clinical Nutrition and Metabolic Care*, 5(5), 489-493.

⁸ Barrett-Connor, E. (1991). Nutrition epidemiology: how do we know what they ate? *The American Journal of Clinical Nutrition*, 54(1), 182S-187S.

combination of data sources to measure beverage sales and corroborate results. Each publicly available source of beverage volume data suffers from certain limitations and uncertainties. Using multiple data sources mitigates the constraints of any one source, thereby improving the completeness and accuracy of results. This report captures changes in beverage calories per person using three data sources: (1) Beverage Marketing Corporation's DrinkTell dataset ("DrinkTell") (2) The Nielsen Company's Scantrack dataset ("Scantrack"), and (3) Beverage Digest's Fact Book ("Fact Book"). While all of these data sources are robust, each has one or more limitations in terms of coverage and granularity. Once integrated, however, they present a more comprehensive picture of changes in beverage volumes. Because DrinkTell is the most complete of the three, it is used as the primary source for measuring beverage calories per person nationally.

2.3 Identifying Key Factors Contributing to Progress

This analysis examines some of the key factors contributing to the overall calorie goal. The trends of these underlying factors will help illustrate what Signatories are doing to achieve the goal and how consumer tastes change. These factors include changes in (1) calories per ounce, (2) ounces per serving, and (3) servings per person. The data collected to measure the calorie goal can also be used to measure how each of these measures evolve over the course of the commitment period.

III. KEY TERMS AND CATEGORIES

This section briefly explains some of the key terms used throughout the report.

- **Baseline Year:** The BCI commitment did not specify a baseline year for setting the 2025 target level. Given that the agreement was announced toward the end of 2014, this verification effort uses 2014 as the baseline. Progress toward the 2025 goal will be benchmarked against the 2014 level of per capita beverage calorie consumption.
- **Liquid Refreshment Beverages ("LRB"):** The BCI effort includes beverages referred to as liquid refreshment beverages ("LRB"). LRB refers to most beverages available for purchase through retail stores, fountain and vending machines, and restaurants, and covers nearly all beverages manufactured by the BCI Companies. LRB excludes alcoholic beverages, dairy products, brewed beverages, drink mixes, energy shots, lemon and lime juice, coconut milk, concentrates, flavor drops, and tap water.⁹
- **Beverage Categories:** This report displays results using a set of beverage categories as defined by the Beverage Marketing Corporation. These eight categories are: carbonated soft drinks ("CSDs"), sports drinks, ready-to-drink ("RTD") teas, RTD coffees, juice (i.e., 100% juice) and juice drinks (i.e., beverages with less than 100% juice), energy drinks, value-

⁹ The inclusion of brewed beverages would make accurate measurement of progress towards the national calorie goal much more difficult given that retail outlets and consumers often add their own sugar, cream, and other caloric additives to brewed teas and coffees. Brewed teas are the only beverages that are made by the BCI companies in substantial quantities, but not measured.

added waters (e.g., flavored waters), and water (i.e., unenhanced still and carbonated water).

- **Calorie Categories:** This report relies on the same four calorie categories provided in the DrinkTell dataset to segment brands. For an eight ounce serving, “no-calorie” beverages have fewer than five calories, “low-calorie” beverages have between six and 40 calories, “mid-calorie” beverages have between 41 and 66 calories, and “full-calorie” beverages have 67 calories or more.¹⁰

IV. REVIEW OF DATA SOURCES

The national analysis relies on publicly available data from DrinkTell, Scantrack, the Fact Book, and the U.S. Census Bureau to estimate total LRB sales volumes, LRB calories, and container sizes.

4.1 Data on Beverage Volumes

4.1.1 Beverage Marketing Corporation DrinkTell Database

The Beverage Marketing Corporation's DrinkTell database is the primary source of information used for this analysis. This data source is based primarily on confidential sales volume data provided directly by beverage companies and is supplemented with Nielsen and IRI scanner data, publically-available earnings reports from beverage companies, and other sources. DrinkTell covers approximately 2,500 brands across all sales channels, including fountain sales. Although comprehensive in terms of its coverage of LRB, the DrinkTell dataset reports volumes at the brand level instead of the more granular stock keeping unit (“SKU”) level. As a result, it is not possible to track changes in container sizes. Another limitation of the dataset is that brands with small sales volumes are reported collectively as “other brands” within each beverage and calorie category (e.g., “other no-calorie CSDs”).

4.1.2 Nielsen Scantrack Dataset

The analysis uses the Nielsen Company's Scantrack data to corroborate beverage volume and calorie estimates. This dataset reports total beverage sales volumes based on transactions from a sample of stores. Hundreds of retailers report sales volume data on products scanned from thousands of stores across the country. Based on this sample, Nielsen scales up the data to approximate all beverages sold in most food, convenience, drug, dollar, and mass merchandiser stores. A key feature of the Scantrack dataset is that it reports beverage volumes by SKU. This level of granularity enables tracking of detailed information on calories per ounce,

¹⁰ Beverage Marketing Corporation reports sales volumes using these definitions, which align closely, but not exactly with the FDA definitions of no- and low-calorie beverages. The difference is that beverages with exactly 5 calories per ounce are counted as no-calorie beverages in the DrinkTell dataset whereas the FDA would consider them low-calorie beverages. Mid-calorie beverages are not differentiated from full-calorie beverages by FDA. The inclusion of the category provides increased data granularity. The definition of mid-calorie used aligns with the definition used during implementation of the Alliance School Beverage Guidelines.

container size (i.e., fluid ounces per bottle, can, etc.), and the number of containers per unit (i.e., individual bottle, 6-pack, 24-pack, etc.).

The Scantrack dataset is limited in its coverage of important market segments. Most importantly for our purposes, Scantrack does not include fountain sales volumes, which represent a large segment of many beverage categories, especially CSDs. This dataset includes limited coverage of beverage volumes sold through small and independent grocery stores (i.e., stores with less than \$2 million in annual sales) and small and independent drug stores (i.e., stores with less \$1 million in annual sales). Finally, the dataset does not capture other beverage volumes sold through restaurants and bars, caterers, and full-service vending. As a result of these exclusions, Scantrack includes just over 60 percent of the LRB calories captured by DrinkTell. While comparisons of overall volumes across the two datasets may not be instructive in this first year, the Scantrack dataset will be helpful for corroborating major changes in the LRB product mix and calories as reported by DrinkTell over multiple years.

4.1.3 Beverage Digest Fact Book

This analysis also integrates data from the Beverage Digest's Fact Book. This annual publication provides all-channel brand-level volume estimates. These data are compiled annually by Beverage Digest from various sources using a proprietary methodology. With comprehensive coverage for several beverage categories, including CSDs, the Fact Book can corroborate brand-level and category-level volume estimates reported by DrinkTell. The Fact Book, however, does not include several categories important for monitoring this commitment, including refrigerated and multi-serve shelf stable juices and juice drinks, some refrigerated teas, bulk bottled water, and RTD coffees. As a result of these exclusions, the calorie totals reported in the Fact Book are about 89 percent of the totals estimated from the DrinkTell dataset.

4.2 Data on Beverage Calories

Estimating total LRB calories required the development of a comprehensive calorie database to integrate data from four sources. The DrinkTell and Scantrack datasets reported calorie information for most products along with the beverage volume estimates. To supplement and corroborate this information, BCI companies reported information for their individual products. Finally, to fill remaining gaps in the data, Internet research provided missing calorie information for individual beverage products with large volumes. Section 5.1.1 explains the method used to integrate and validate these data.

4.3 Data on the U.S. Population Size

The calculation of calories per capita uses population data from the U.S. Census Bureau. The Census Bureau integrates data on births, deaths, and migrations to produce a time series of population estimates from the most recent decennial census. This annually-updated series provides estimates for the most recent year and updated estimates for previous years.¹¹ As

¹¹ The data come from the table NST-EST2015-01, which provides Annual Estimates of the Resident Population for the United States, Regions, States, and Puerto Rico: April 1, 2010 to July 1, 2015

newer population estimates become available, future reports will incorporate those revisions which may affect both the 2014 baseline per capita estimate and the 2025 target.

V. METHODS

5.1 Adjustments

Integrating data from multiple sources enabled the identification and correction of inconsistencies and gaps in the data. Although the LRB volume estimates required no changes, this section outlines two adjustments to the calorie and package size information provided by DrinkTell and Scantrack.

5.1.1 Adjustments to Calorie Data

Constructing the calorie database required a two-step process. The first step was to create a crosswalk between the brand-level calorie data from DrinkTell and the SKU-level calorie data from Scantrack.¹² By assigning each SKU to a specific brand, calorie estimates were compared across datasets. Additionally, within Scantrack, a comparison between the calorie counts for individual SKUs and the weighted average among all SKUs of the same brand revealed inconsistencies in calorie information. The next step drew upon additional information from BCI companies and/or Internet research to resolve discrepancies. For the 2014 data, this process resulted in revisions to 11 out of the 329 brands in the DrinkTell dataset and 2,506 out of 47,664 SKUs in Scantrack dataset. Over the period of the commitment, this calorie library will be updated as newer information becomes available.

5.1.2 Adjustments to Container Size Data

A systematic review of the Scantrack container size data revealed inconsistencies that required revision. The multiple data fields available in the Scantrack dataset allowed problems to be identified and corrected. For example, if data showed that an individual product was both a 6 pack (as indicated in the product description) and a single unit (as indicated in the unit information), then the product was flagged for further investigation. Review of additional data fields, such as the average price of the SKU, helped to determine which container-size information was correct. This scrutiny often revealed patterns that helped to correct systematic inconsistencies in the database (e.g., all 6-packs from a particular manufacturer were incorrectly listed as single units). This review process included, but was not limited to, the top 1,000 products in terms of both volume and calories, which represent 73% of volumes and 68% of calories in the dataset.

5.2 Key Calculations

¹² This analysis assumes that the smaller brands, which DrinkTell combines into "other brands" categories, have the same number of calories per ounce as the weighted average of calories per ounce among the brands within the same beverage and calorie categories. For example, the analysis assumes that the beverages lumped together as "other full-calorie CSDs" have the same calories per ounce as average of the full-calorie CSD brands that are listed individually.

5.2.1 Per Capita Consumption Calculation

Calculating per capita beverage calorie consumption first required converting all sales volume data into ounces and then multiplying those values by average calories per ounce for each brand or SKU. Next, these calorie estimates were summed across all products to calculate total LRB calories. Third, the total LRB calorie estimate was divided by the national population estimate for 2014. Fourth, this amount was divided by 365 days to obtain a daily per person estimate of beverage calories consumed.

These calculations were performed across the different datasets. Where differences existed, the next step was to confirm that this variation could be explained by the known differences in data coverage. In the future, the analysis will compare findings across datasets to verify and corroborate annual changes, as discussed above. For further validation of findings, each Signatory Company reviewed a data summary similar to those included in Appendix B, but including only data for their own brands. By confirming that the data were consistent with their internal data, this additional review further validated data for brands representing 78 percent of all LRB calories.

5.2.2 Container Size Calculations

The container size analysis used Scantrack data to calculate both the average container size and the percentage of containers sold in various size categories for each beverage category. The average container size analysis focuses on beverage containers less than or equal to one liter in size.¹³ For this calculation, the total number of ounces sold for each beverage category was summed and divided by the total number of containers sold in that category. To calculate the distribution of products across different container size groupings, the number of containers in each grouping was summed and divided by the total number of containers.¹⁴

¹³ The analysis excludes products in containers larger than one liter, given that they are nearly always considered multi-serve beverages. While many beverage products that are less than or equal to one liter are also considered multi-serve beverages, some consumers treat them as a single portion and so the calculation includes them. Also, products in the one-liter size range are relatively uncommon, and so their inclusion does not significantly impact the results.

¹⁴ The distributional analysis splits beverages into 6 categories: (1) less than 12 ounces, (2) equal to 12 ounces, (3) greater than 12 ounces and less than 20 ounces, (4) equal to 20 ounces, (5) greater than 20 ounces and less than or equal to 1 liter, and (6) greater than 1 liter. The 12 and 20 ounce categories serve as cutoffs because they are the most common pack sizes for CSDs, the largest beverage category in terms of calories.

APPENDIX B: NATIONAL INITIATIVE RESULTS SUMMARY TABLE

BCI NATIONAL INITIATIVE, 2014 BASELINE OVERALL SUMMARY

Category	Total Volume (Millions, 8 oz. Servings) ¹	Share of Total Volume ¹	Share of Total Calories ¹	Average Calories Per 8 oz. Serving ¹	Average Calories per Person per Day ¹	Average oz. per Container (Containers ≤ 1L Only) ²	Percent of Containers (Not Volumes) by Size Category ²						
							<12 oz.	12 oz.	>12 oz. to <20 oz.	20 oz.	> 20 oz. to ≤ 1 L	> 1 L	
Total													
CSD	204,252	41.1%	64.6%	73.0	128.1	13.7	3%	70%	8%	8%	4%	7%	
100% Juice & Juice Drinks	53,036	10.7%	21.7%	94.2	42.9	9.4	59%	6%	7%	1%	4%	23%	
RTD Tea	25,027	5.0%	5.2%	48.2	10.4	18.4	1%	13%	47%	5%	20%	15%	
RTD Coffee	1,430	0.3%	0.8%	128.6	1.6	12.6	34%	3%	59%	0%	1%	4%	
Sports Drinks	22,961	4.6%	4.9%	49.1	9.7	23.0	1%	19%	0%	36%	42%	1%	
Energy	9,285	1.9%	2.4%	59.7	4.8	14.2	22%	13%	59%	2%	4%	0%	
Value-Added Water	6,620	1.3%	0.4%	13.7	0.8	16.7	29%	3%	25%	25%	17%	1%	
Water	173,997	35.0%	0%	0	0	17.0	4%	0%	85%	4%	3%	3%	
ALL BEVERAGES	496,607	100.0%	100.0%	46.4	198.2	15.1	10%	33%	35%	7%	6%	7%	
Full-Calorie (More than 67 calories per 8 oz.)													
CSD	147,216	29.6%	64.4%	100.9	127.6	13.4	3%	72%	6%	9%	3%	7%	
Juice & Juice Drinks	39,600	8.0%	19.3%	112.3	38.2	9.6	57%	5%	8%	2%	5%	24%	
RTD Tea	9,920	2.0%	3.5%	81.2	6.9	18.5	1%	7%	44%	4%	24%	21%	
RTD Coffee	1,383	0.3%	0.8%	131.7	1.6	12.7	33%	0%	62%	0%	1%	4%	
Sports Drinks	2	0%	0%	95.0	0	14.2	1%	52%	38%	9%	0%	0%	
Energy	5,040	1.0%	2.4%	108.5	4.7	14.1	24%	14%	56%	2%	4%	0%	
Value-Added Water	0	0%	0%	-	0	*	*	*	*	*	*	*	
Water	0	0%	0%	-	0	-	-	-	-	-	-	-	
FULL-CALORIE TOTAL	203,161	40.9%	90.3%	102.6	179.0	13.0	15%	52%	11%	7%	4%	11%	
Mid-Calorie (41-66 calories per 8 oz.)													
CSD	0	0%	0.0%	-	0	*	*	*	*	*	*	*	
Juice & Juice Drinks	8,897	1.8%	2.1%	53.6	4.1	9.2	49%	13%	3%	1%	1%	32%	
RTD Tea	6,960	1.4%	1.5%	50.2	3.0	18.6	0%	26%	35%	6%	25%	6%	
RTD Coffee	17	0%	0%	50.0	0.0	12.3	24%	29%	39%	0%	0%	9%	
Sports Drinks	19,666	4.0%	4.7%	55.0	9.3	23.1	1%	19%	0%	34%	44%	1%	
Energy	0	0%	0%	-	0	*	*	*	*	*	*	*	
Value-Added Water	1,600	0.3%	0.3%	48.0	0.7	19.9	6%	2%	18%	63%	11%	0%	
Water	0	0%	0%	-	0	-	-	-	-	-	-	-	
MID-CALORIE TOTAL	37,140	7.5%	8.6%	53.5	17.1	20.1	11%	18%	8%	25%	30%	8%	
Low-Calorie (5-40 calories per 8 oz.)													
CSD	1,129	0.2%	0.1%	24.6	0.2	15.7	1%	38%	24%	32%	0%	4%	
Juice & Juice Drinks	3,008	0.6%	0.3%	22.0	0.6	8.2	87%	1%	3%	0%	0%	9%	
RTD Tea	1,200	0.2%	0.2%	35.8	0.4	22.2	0%	14%	28%	10%	35%	12%	
RTD Coffee	29	0%	0%	27.3	0	11.6	35%	61%	0%	0%	0%	4%	
Sports Drinks	2,238	0.5%	0.2%	20.0	0.4	20.5	1%	29%	0%	44%	25%	0%	
Energy	64	0%	0%	5.5	0	11.2	49%	32%	16%	3%	0%	0%	
Value-Added Water	336	0.1%	0.1%	40.0	0.1	10.1	65%	2%	28%	3%	3%	0%	
Water	0	0%	0%	-	0	-	-	-	-	-	-	-	
LOW-CALORIE TOTAL	8,004	1.6%	0.9%	24.5	1.7	13.0	42%	17%	15%	15%	6%	4%	
No-Calorie (Less than 5 calories per 8 oz.)													
CSD	55,908	11.3%	0.1%	0.4	0.2	14.1	2%	69%	11%	6%	6%	6%	
Juice & Juice Drinks	1,530	0.3%	0%	4.7	0.1	8.3	77%	9%	3%	0%	2%	9%	
RTD Tea	6,947	1.4%	0%	1.2	0.1	17.3	0%	5%	70%	3%	5%	16%	
RTD Coffee	0	0%	0%	-	0	*	*	*	*	*	*	*	
Sports Drinks	1,056	0.2%	0%	0.0	0	25.0	0%	6%	0%	47%	46%	0%	
Energy	4,181	0.8%	0%	1.7	0.1	15.9	0%	6%	0%	47%	46%	0%	
Value-Added Water	4,684	0.9%	0%	0.1	0	19.5	17%	4%	24%	24%	29%	1%	
Water	173,997	35.0%	0%	0	0	17.0	4%	0%	85%	4%	3%	3%	
NO-CALORIE TOTAL	248,302	50.0%	0.2%	0.2	0.4	16.2	5%	21%	61%	5%	5%	4%	

¹ Data from DrinkTell and Census Bureau ² Data from Nielsen Scantrak.

* Nielsen Scantrak data showed small volumes in these categories. However, given that the Beverage Marketing Corporation data showed no volumes, we did not report package size information.
Note: All averages are weighted by volume.

APPENDIX C: ABOUT THE REPORT AUTHORS

Dr. Robert F. Wescott is President of Keybridge. Dr. Wescott has more than 30 years of professional experience working on macroeconomic and public policy issues. He has more than a decade of experience in leading evaluations of industry initiatives to improve public health. Dr. Wescott served for four years as Special Assistant to the President for Economic Policy at the White House and as Chief Economist at the President's Council of Economic Advisers. From 1982-93, he was Senior Vice President and Chief Economist at Wharton Econometrics (today IHS Global Insight), where he oversaw a staff of 60 and was responsible for all economic modeling, forecasting, and consulting operations. Dr. Wescott also was Deputy Division Chief in the Research Department of the International Monetary Fund, where he did research on global economic risks and policy challenges. He holds a Ph.D. in Economics from the University of Pennsylvania, 1983.

Brendan M. Fitzpatrick is a Senior Director at Keybridge. Mr. Fitzpatrick specializes in international economics, program evaluation, and environmental policy. He has eight years of experience in managing evaluations of industry initiatives to improve public health. Prior to joining Keybridge, Mr. Fitzpatrick served in the Office of the Chief Economist of the World Bank, where he focused on development finance, environment, and the production of the 2006-08 Global Monitoring Reports. Mr. Fitzpatrick holds Bachelor's degrees in Bioengineering & Economics from the University of Illinois at Urbana-Champaign and a Master's degree in Public Administration in International Development from Harvard University.

Elizabeth Phillips is a Senior Economist at Keybridge. Ms. Phillips specializes in public health policy, program and impact evaluation, and policy analysis. She has four years of experience in evaluation of industry initiatives to improve public health. Prior to joining Keybridge, Ms. Phillips designed and conducted an evaluation of microsavings programs in the Philippines as a U.S. Fulbright Research Scholar. She holds a Bachelor's degree in Economics and International Studies from Rhodes College and a Master's degree in Public Affairs from Princeton University.



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