

Report to Congress
Low Income Home Energy Assistance Program (LIHEAP)

**An Assessment of the Program's Formula and
Allocations of Funding Among States**



ADMINISTRATION FOR
CHILDREN & FAMILIES

The Department of Health and Human Services (HHS) submits this report to the House of Representatives, Committee on Appropriations in response to the following language included in House Committee Print 38-679:

Within 120 days of enactment of this Act, the agreement directs ACF to submit to the Committees and make publicly available a report evaluating the program's formula and allocations of funding among States, including an assessment of available data, how the formula currently addresses annual fluctuations in formula factors, and the percentage of eligible households served, average assistance amount, and percentage of home energy costs covered by that amount by State.

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EXECUTIVE SUMMARY

Purpose and Structure of this Report

The purpose of this report is to:

- Evaluate the program's formula and allocations of funding among States—see: Sections I and II.
- Evaluate how the formula currently addresses annual fluctuations in formula factors—see: Section II and Appendix 2 (separate file).
- Include an assessment of available data—see: Section III.
- Include the percentage of eligible households served, average assistance amount, and percentage of home energy costs covered by that amount by State—see: Section IV and Appendix 3 (separate file).

For a list of definitions of terms used in this report, please consult Appendix 1.

Statutory Background of the LIHEAP Funding Formula

Congress last authorized the Low Income Home Energy Assistance Program (LIHEAP) with the Energy Policy Act of 2005, Public Law 109-58, enacted August 8, 2005. This authorization expired on September 30, 2007. Since then, HHS has allocated funds using formula directives included in each year's appropriation act.

Congress mandates that states must use federal LIHEAP funding to help low-income households meet their home energy needs. The LIHEAP authorizing statute calls for the Department of Health and Human Services (HHS) to distribute funds to the states using one of two formulas that Congress established in 1981 and 1984. One formula uses static state funding shares from FY 1981,¹ while the other formula (1984) uses states' share of national low income home energy expenditures subject to two hold-harmless provisions. Under the last enacted statute, the overall funding amount determines the formula to implement in a given year and whether HHS must apply the hold harmless provisions.

Since FY 2009, Congress, through its annual appropriations acts, essentially established a hybrid formula that uses a combination of both the 1981 Formula and the 1984 Formula based on amounts prescribed in the appropriation. This included overriding the statutory triggers specifying when the 1981 and 1984 Formulas would normally be applied exclusively. In these appropriations, Congress specified how much funding to allocate to grantees according to each formula (1981 and 1984), and these amounts have varied from

¹ The original LIHEAP statute, enacted in 1981, included a formula (1981 Formula) to allocate LIHEAP funds among the states based on seven different data factors. This formula led to allocations based on a static percentage for each state, which has not changed since 1981.

year-to-year. In addition, the FY 2020 appropriation added a third hold harmless provision, which guaranteed that states and territories would get no less than 97 percent of the allocation each received in FY 2019.

HHS sets aside funds for five U.S. territories: the Commonwealth of Puerto Rico, Guam, American Samoa, the Virgin Islands of the United States, and the Commonwealth of the Northern Mariana Islands. The amount of this set-aside has remained at the statutory maximum of 0.50 percent of the funding available to all grantees since FY 2014.² Since FY 1985, each territory's share of this set-aside has been based on its share of the five territories' total allocations from FY 1984.

Federally and state recognized Native American tribes and tribal organizations (tribes) are eligible to apply to administer their own LIHEAP. The statute directs HHS to allocate, to any tribe that successfully applies, funds from the allocation(s) of the state(s) in which the tribe is located. The amount allocated to that tribe is based on (1) the ratio of the income eligible Native American households that reside on the tribe's reservation and adjacent public trust land to the income eligible households of that state; or (2) a greater amount as agreed to by the state and tribe.³

Updates to the LIHEAP Funding Formula

HHS runs and maintains the funding formulas for each year. It maintains records of the 1981 allotment percentages for each state, which remain constant. For the 1984 Formula calculations, HHS also re-estimates each state's share of home energy expenditures by low income households every year, which are updated from external, federal data sources. It also runs the calculations that determine the full distribution of LIHEAP funds under the hybrid formula.

The 1981 Formula used cold-weather parameters, certain other parameters of all households, and previous-year allotments. By contrast, the 1984 Formula uses cold-weather and warm-weather parameters of low income households and drops previous year allotments. The two hold harmless provisions in the 1984 Formula guarantee that, if the overall funding is high enough, states will get no less than a fixed amount or, if the state is a small state⁴, a relative share of all states' funds.

Allocations from the LIHEAP Funding Formulas from FY 2018 to FY 2020

From FY 2018 through FY 2020, the hybrid formulas caused the allocations for 29 states to exceed the amounts that would have derived directly from their 1984 allotment percentages. These states are concentrated in the northern part of the country. Furthermore, the remaining 22 states are concentrated in the south, with the exception of Alaska.

From FY 2019 to FY 2020, prior to enactment of the CARES Act (Public Law 116-136), the distribution of changes in allocation shares (i.e. the percent difference between the share of

² 42 U.S.C. § 8623(b)(1).

³ 42 U.S.C. § 8623(d)(2).

⁴ A "small state" is one that would have received less than one percent of the total available to all states under a contemporaneous appropriation of exactly \$2.25 billion.

funding actually received by states and their 1984 allotment percentages) among states remained approximately the same, despite the addition of the third hold harmless provision in FY 2020 calculation, based on the FY 2020 appropriations act. After the CARES Act enactment, the distribution of the changes in allocation shares was less pronounced because the increased funding resulted in more states having their 1984 Formula amounts based on their 1984 allotment percentages. The CARES Act supplemental allocation did not have any impact on the third hold harmless provision because the total funding from that act and the regular LIHEAP appropriation caused all grantees to reach that provision's floor, i.e., 97 percent of their FY 2019 regular awards.

For each of the hybrid formulas enacted by Congress, the funding amount specified by Congress to trigger the 1984 Formula fell below the normal statutory threshold. HHS incorporated the 1984 Formula's cold-weather parameters, warm-weather parameters, and hold-harmless provisions to estimate each state's share of home energy expenditures by low income households⁵. However, HHS observed that the hold-harmless provisions lead to unintended results, including:

1. Some states receive no portion of the 1984 Formula funding under the hybrid approach; and
2. Some states receive an 1984 Formula allocation share that is more than or less than their 1984 allotment percentages calculated based on data updates, i.e., more than or less than their estimated shares of home energy expenditures by low income households.

Assessments of the Statutory LIHEAP Funding Formula

As a result of annual changes in congressional funding instructions and in the data from other federal agencies that enter into the 1984 allotment percentages, state allocations vary by year in both absolute dollar amounts and the relative share of total funds. HHS coordinated with the Energy Information Administration (EIA) in FY 2020 to assess the data currently available to HHS for calculating the home energy expenditures by fuel types across states. HHS concluded that EIA does not currently offer any other data source that would be more appropriate and as consistent in availability by fuel types in each state as the data HHS currently uses.

Outcomes of the LIHEAP Funding Formula for FY 2019

As a block grant program, LIHEAP provides broad flexibility for states to design and implement their programs to meet local community needs. State FY 2019 data reported to HHS demonstrates that low income home energy needs vary considerably by state. That year, states' LIHEAP income-eligibility criteria ranged from 110 percent to 263 percent of

⁵ See 42 U.S.C. § 8623(a)(4) which defines the 1984 Formula as "a State's allotment percentage is the percentage which expenditures for home energy by low-income households in that State bears to such expenditures in all States". See also 42 U.S.C. § 8623(a)(4) which directs that "the Secretary shall determine the expenditure for home energy by low-income households on the basis of the most recent satisfactory data available to the Secretary."

Federal Poverty Guidelines (FPG). States also ranged from approximately 49 percent to nearly 94 percent in terms of the portion of funding they allocated towards bill payment benefits, as opposed to other allowable costs. The percentage of income eligible low-income households served by states ranged from 4.63 percent to 46.16 percent. The average residential energy burden for recipient households *before* receiving LIHEAP benefits ranged from 4.79 percent to 17.92 percent, and the average residential burden *after* receiving LIHEAP benefits ranged from 1.27 percent to 16.35 percent.

Also in FY 2019, state-level data shows that the average annual home energy *bills* for all low income households ranged from \$296 to \$1,493, and the average annual home energy *burden* for all low income households ranged from 1.28 percent of income to 6.78 percent of income.⁶ When examining the gross funding allocations, before set-asides to Native American tribes and tribal organizations (tribes), states received between \$45 and \$309 per low income household.

Grantee flexibility—particularly regarding the types of assistance to offer, the amount of bill payment benefits to offer, and where to set the income eligibility cut-off for their program—leads to substantial variation among the characteristics of state programs, such as the average benefit amount and the number of households served. These different outcomes in the benefit levels and numbers of households assisted occur regardless of the total appropriation amount or the split between the 1981 and 1984 Formula funding amounts as appropriated by Congress.

⁶ “Home energy” refers to heating and cooling. The average annual low income home energy bill represents the average annual home heating and cooling expenditures for low income households, estimated from the sources used to develop the 1984 allotment percentages. The average annual home energy burden represents the share of income paid, on average, for home heating and cooling expenditures by low income households.

Section I: Description and Analysis of the Current LIHEAP Formula

Explanation of 1981 and 1984 Formulas

The original LIHEAP statute, enacted in 1981, included a formula (1981 Formula) to allocate LIHEAP funds among the states based on seven different data factors. This formula led to allocations based on static percentages for each state, none of which has changed since 1981. These static percentages are as follows:

Table 1: State Allocation Percentages from the 1981 Formula

State	1981 Formula Percentage
Alabama	0.860045%
Alaska	0.548986%
Arizona	0.415928%
Arkansas	0.656255%
California	4.613891%
Colorado	1.608720%
Connecticut	2.098632%
Delaware	0.278553%
District of Columbia	0.325921%
Florida	1.360848%
Georgia	1.075959%
Hawaii	0.108355%
Idaho	0.627508%
Illinois	5.808651%
Indiana	2.629994%
Iowa	1.863912%
Kansas	0.855992%
Kentucky	1.368640%
Louisiana	0.879264%
Maine	1.359579%
Maryland	1.606896%
Massachusetts	4.197959%
Michigan	5.514805%
Minnesota	3.973105%
Mississippi	0.737355%
Missouri	2.320202%
Montana	0.736027%
Nebraska	0.921776%
Nevada	0.195349%
New Hampshire	0.794588%
New Jersey	3.897152%

State	1981 Formula Percentage
New Mexico	0.520713%
New York	12.724791%
North Carolina	1.896380%
North Dakota	0.799548%
Ohio	5.138620%
Oklahoma	0.790558%
Oregon	1.246826%
Pennsylvania	6.835090%
Rhode Island	0.691008%
South Carolina	0.683051%
South Dakota	0.649373%
Tennessee	1.386403%
Texas	2.263997%
Utah	0.747576%
Vermont	0.595572%
Virginia	1.957379%
Washington	2.050857%
West Virginia	0.905733%
Wisconsin	3.576365%
Wyoming	0.299313%

In 1984, Congress reauthorized LIHEAP and enacted a different formula (1984 Formula), which moved away from a static percentage in favor a dynamic allotment percentage that is calculated annually for each state. As the LIHEAP authorizing statute calls for HHS to distribute funds to the states using one of two formulas that Congress established in 1981 and 1984, HHS will first describe them separately, and then explain the current hybrid use of both.

1981 – Initial LIHEAP Allocation

The original LIHEAP formula—developed for the Low Income Energy Assistance Program—called for distributing programmatic funds to the states on the basis of the following seven parameters:

1. Home heating expenditures;
2. Residential energy expenditures;
3. Heating degree days;
4. Population with income equal to or less than 125 percent of the poverty income guidelines;

5. Households with incomes equal to or less than the Bureau of Labor Statistics' lower living standard income level;
6. The previous-year's allotments; and
7. The previous-year's recipients.

The Crude Oil Windfall Profits Tax Act (P.L. 96-223) established the Low Income Energy Assistance Program formula. The Omnibus Budget Reconciliation Act (P.L. 97-35) subsequently established LIHEAP as a block grant program and set the states' allotment percentages under this formula at those which were in place for federal Fiscal Year (FY) 1981.

Additionally, this initial formula defined set-asides,⁷ which refer to the amount of funding for the territories, the funding Congress appropriates for HHS to use toward federal training and technical assistance and monitoring, and two optional programs towards which HHS can use a portion of the LIHEAP funding—the Leveraging Incentive Program and the Residential Energy Assistance Challenge (REACH) Program.

1984 – Establishment of 1984 Formula

Home Energy Expenditures by Low Income Households

In 1984, the Human Services Reauthorization Act (P.L. 98-558) changed the LIHEAP formula substantially. One element of this change called for distributing funds to the states based on each state's share of all states' total home energy expenditures by low income households, also known as the state's "allotment percentage." This element dropped the direct and independent inclusion of home heating expenditures, residential energy expenditures, heating degree days, income levels compared to thresholds, and previous-year allotments. It also added the consideration of energy expenditures by the subpopulation of low income households rather than all households.

Hold Harmless Provisions

A second element of the formula change called for holding states harmless at up to two amounts, depending upon the total appropriation amount.

⁷ 42 U.S.C. § 8623(a)(1)(A) which directs that: "...the Secretary shall, from that percentage of the amount appropriated under section 2602(b) for each fiscal year which is remaining after reserving any amount permitted to be reserved under section 2609A and after the amount of allotments for such fiscal year under subsection (b)(1) is determined by the Secretary, allot to each State an amount equal to such remaining percentage multiplied by the State's allotment percentage...."

*Hold Harmless Level (HH Level)*⁸

The first hold-harmless provision is triggered when the total appropriation amount, minus set-asides, equals or exceeds \$1.975 billion. It keeps any state from getting less than what it would have received in FY 1984 if the appropriation for that year had been \$1.975 billion.

*Hold Harmless Rate (HH Rate)*⁹

The second hold-harmless provision is triggered when the total appropriation amount, minus set-asides, equals or exceeds \$2.25 billion.

This keeps any “small” funded state from getting a lower share of the total available to all states under the current appropriation than it would have received under a hypothetical, same-year appropriation of exactly \$2.14 billion. In the context of the LIHEAP formula, a “small state” is one that would have received less than one percent of the total available to all states under a contemporaneous appropriation of exactly \$2.25 billion.¹⁰ HHS interprets this provision to mean that no small state would get a lower share than the greatest of (1) the share under a \$2.14 billion appropriation and (2) the share under a \$2.25 billion appropriation.

It also works in conjunction with the HH Level, given that the HH Level triggers at a lower threshold.

Finally, it calls for states that are not held harmless under either the HH Level or the HH Rate to be “ratably reduced” to fund the states that are held harmless.

Here are four examples that show how HHS applied the hold harmless provisions to the FY 2020 non-CARES Act appropriations¹¹:

1. **HH Level: Indiana** was held harmless at its HH Level. It was held harmless in this fashion because (1) it wasn’t a small state—in that its allocation share at an appropriation of \$2.25 billion was 2.3 percent of the total available to all states, which exceeds the 1% statutory threshold at that appropriation level; and (2) that level, \$51,872,037, exceeded the

⁸ 42 U.S.C. § 8623(a)(2)(A)(ii).)

⁹ 42 U.S.C. § 8623(a)(2)(B)).)

¹⁰ In FY 2020, there were 22 “small” states that would have received less than one percent of the total available to all states under a contemporaneous appropriation of exactly \$2.25 billion, i.e., before a final reduction to make the 1984 formula allocate less than \$1.975 billion. The Hold Harmless Rate was applicable to 13 of these states. For the other nine “small” states, their 1984 allotment percentages exceeded the Hold Harmless Rate, and as such, the Hold Harmless Rate did not apply.

¹¹ These examples don’t show the states’ final allocations under the 1984 Formula portion. That’s because HHS backed out the allocations at exactly \$1.975 billion from these figures. This report describes this back-out process in more detail on Page 13.

amount it would have received from its 1984 Formula allocation percentage, \$50,429,517.

2. **HH Rate: Alaska** was held harmless at its HH Rate. It was held harmless in this other fashion because:
 - a. it *was* a small state, given that its allocation share at an appropriation of \$2.25 billion was 0.48 percent of the total available to all states, which is less than the 1% statutory threshold at that appropriation amount; and
 - b. the amount that extended from that rate, \$13,822,202, exceeded:
 - i. the amount that it would have received from its 1984 Formula allocation percentage, \$10,572,835; and
 - ii. its HH Level of \$10,827,790.
3. **Ceiling: Texas** was capped at its ceiling. This is because:
 - a. it *wasn't* either of the following:
 - i. a small state, given that its allocation share at an appropriation of \$2.25 billion was 3.14 percent of the total available to all states, which exceeds the 1 percent threshold; or
 - ii. held at its HH Level, given that its 1984 Formula allotment percentage amount, \$221,872,157, exceeded that level of \$44,653,386; and
 - b. its ceiling amount of \$139,988,291, which equaled its HH level times the ceiling ratio of 3.13499833. Therefore, Texas received less than it would have through its 1984-Formula allotment percentage which would have amounted to \$221,872,157.
4. **1984 Formula Allotment Percentage: Massachusetts** had its 1984 Formula amount derive directly from its 1984 Formula allotment percentage. This is because:
 - a. it *wasn't* a small state, given that its allocation share at an appropriation of \$2.25 billion was 3.70 percent of the total available to all states, which exceeds the 1 percent threshold;
 - b. its 1984 Formula percentage amount, \$86,845,029, fell in the following range:
 - i. above its HH Level of \$82,797,407; and
 - ii. below its ceiling of \$259,569,733.

P.L. 98-558 (1984) split the LIHEAP formula into two: the *1981 Formula* and the *1984 Formula*. The 1981 Formula, which triggers when the total appropriation, minus set-asides, *falls below* \$1.975 billion, distributes funds to each state in accordance with its 1981 “allotment percentage”—the percentage based on the static data factors from 1981. The 1984 Formula, which triggers when the total appropriation, minus set-asides, *exceeds* \$1.975 billion, distributes funds to each state according to *one* of the following amounts:

1. The state’s 1984 allotment percentage—the dynamic percentage that changes annually based on data factors;
2. The state’s allocation amount under the hypothetical 1984 appropriation of \$1.975 billion, i.e., the state’s HH Level;
3. If the state is a small state and if the appropriation is at least \$2.25 billion, the amount that derives from the greatest of the state’s share under a \$2.14 billion appropriation and a \$2.25 billion appropriation, i.e. the state’s HH Rate; and
4. A ratable reduction¹² of the state’s allotment percentage if the state is not held harmless under the HH Level or the HH Rate.

Under the 1984 Formula, no state may get less than its HH Level or, when the appropriation is at least \$2.25 billion, its HH Rate.

P.L. 98-558 took effect starting in FY 1985. From that year through FY 2008, the 1984 Formula took effect four times as the HH Level was triggered: FY 1985, FY 1986, FY 2006, and FY 2008. The HH Rate was triggered only in FY 2006.

Each state’s 1984 Formula funding amount is based on only one of those four methodologies; which methodology controls will vary from year-to-year, depending on the appropriation’s formula and the data factors.

2009 to Present – Hybrid Formulas

In FY 2009 and every fiscal year thereafter, Congress has changed the LIHEAP formula through the annual appropriations process.

This change involved splitting the LIHEAP funding distribution between the 1981 Formula and the 1984 Formula. For FY 2009 through FY 2019, Congress included language in the LIHEAP appropriation along the lines of: “Provided, That all but \$XXX,XXX,XXX of this amount shall be allocated as though the total appropriation for such payments for fiscal year 20[XX] was less than \$1,975,000,000...” (See, for example, P.L. 110-161).

¹² See “ratably reduce” reference at 42 U.S.C. § 8623(a)(3).

This directed HHS to use a hybrid approach to distribute a specified amount through the dynamic 1984 Formula, thereby leaving HHS to distribute the rest through the static 1981 Formula, after accounting for set-asides.

The amount that Congress directed HHS to distribute through the 1981 Formula has ranged from \$2.76 billion in FY 2013 to \$3.67 billion in FY 2009 and other years. HHS distributed the remaining funds through the 1984 Formula, ranging from \$491 million in FY 2014 to \$840 million in FY 2009.

One impact of this hybrid approach is that Congress effectively directed HHS to distribute less than \$1.975 billion through the 1984 Formula, contrary to how the statute would otherwise direct HHS to implement that formula.

To implement the hybrid approach, HHS:

1. Deducts from the 1981 portion set asides for training and technical assistance (T&TA) and funding for grant programs at the option of the HHS Secretary¹³ and runs the 1981 Formula therefrom;
2. Runs the 1984 Formula, including the hold harmless provisions but without deducting set asides for T&TA or optional programs. When the amount to be run through the 1984 Formula falls short of \$1.975 billion, HHS:
 - a. Runs the 1984 Formula amount plus \$1.975 billion through the 1984 Formula;
 - b. Runs exactly \$1.975 billion through the 1984 Formula; and
 - c. Backs out the results of Step 2 from Step 1;
3. Adds the allocations calculated using the 1981 Formula to the allocations calculated using the 1984 Formula; and
4. For those states in which HHS directly funds Native American tribes and tribal organizations, deducts the amounts for those tribes from the allocations of the state(s) in which those tribes are located.

Under 2.a., if Congress directed HHS to allocate \$500 million through the 1984 Formula, the \$500 million is added to \$1.975 billion, and the 1984 Formula is modeled for the combined amount of \$2.475 billion.

HHS backs out 2.b. from 2.a. when the amount to be run through the 1984 Formula falls short of \$1.975 billion. HHS does this to assure that its calculations avoid negative allocations under the 1984 Formula while adhering to the hold harmless provisions of the LIHEAP statute. This procedure causes certain states to experience disproportionate

¹³ The Leveraging Incentive Program (Leveraging) is an optional program HHS can offer to LIHEAP grantees to provide an additional LIHEAP grant in recognition of the grantee's value of non-federal dollars and in-kind donations leveraged in coordination with their federal LIHEAP funding. The Residential Energy Assistance Challenge (REACH) Program is another optional program HHS can offer to LIHEAP grantees to test or demonstrate strategies to reduce households need for home energy assistance. See 42 U.S.C. § 8626a and 42 U.S.C. § 8626b.

adjustments to their 1984 Formula amounts. This is especially the case for states for which: (1) the amounts from 2.a. differ widely from those in 2.b, and (2) the amounts from 2.a. and 2.b. derive from the state's HH Level. States that fall under the latter case get \$0 for their 1984 Formula amounts.

For FY 2020, the states that did not receive any pre-CARES Act funding from the 1984 Formula portion of the funding calculation consisted of Indiana, Iowa, Maine, Michigan, Minnesota, New York, Pennsylvania, and Wisconsin.

Looking again at the examples provided on page 11, we see that the final amounts that those states received through the 1984 Formula, after accounting for this back-out process, results as follows:

1. **HH Level—Indiana** was held harmless at its HH Level, \$51,872,037, when HHS ran the 1984 Formula at the specified amount plus \$1.975 billion. The state was also held at its HH Level same level when HHS ran the 1984 Formula at exactly \$1.975 billion. The back-out process subtracted the latter from the former. As these were the same, the state's final 1984 Formula amount came to zero.
2. **HH Rate—Alaska** was held harmless at its HH Rate, \$13,822,202, when HHS ran the 1984 Formula at the specified amount plus \$1.975 billion. However, the state was held at its HH Rate, \$10,827,790, when HHS ran the 1984 Formula at exactly \$1.975 billion. The back-out process subtracted \$10,827,790 from \$13,822,202 and caused the state's final 1984 Formula amount to be \$2,994,412.
3. **Ceiling—Texas** was capped at its ceiling amount, \$139,988,291, when HHS ran the 1984 Formula at the specified amount plus \$1.975 billion. The state was also held at its ceiling amount, \$44,029,300, when HHS ran the 1984 Formula at exactly \$1.975 billion. The latter ceiling amount differed from the former ceiling amount because the ceiling ratio was 0.98602377 instead of 3.13499833. The back-out process subtracted \$44,029,300 from \$139,988,291 and caused the state's final 1984 Formula amount to be \$95,958,991.
4. **1984 Formula Allotment Percentage—Massachusetts** was neither capped nor held harmless when HHS ran the 1984 Formula at the specified amount plus \$1.975 billion. Thus, it had its pre-back-out 1984 Formula amount, \$86,845,029, derive directly from its 1984 Formula allotment percentage. The state was held to its HH Level, \$82,797,407, when HHS ran the 1984 Formula at exactly \$1.975 billion. The back-out process subtracted \$82,797,407 from \$86,845,029 and caused the state's final 1984 Formula amount to be \$4,047,622.

How the formula currently addresses annual fluctuations in allotment percentages

The following section examines when the hold harmless provisions from the 1984 Formula apply to each state's gross allocation for a given year. *Gross allocation* here means the state

allocation before tribal set-asides.¹⁴ For determining state allotments, the 1984 statute leads to the following gross allocations:

- When the total appropriation is *less than* \$1.975 billion, all states have their 1984 Formula allocations based on the share of the funding that each received in FY 1984, due to the HH Level provision.
- When the total appropriation is *greater than or equal to* \$1.975 billion, but *less than* \$2.25 billion, the states' 1984 Formula allocations are based on their 1984 Formula allotment percentages, subject to the HH Level provision. In this scenario, some states will receive their HH Level, which is greater than the amount they would receive based on their share of low income home energy expenditures in that year. Some states are held at a ceiling to fund the states for which their 1984 Formula allocations increased to their HH Level.
- When the total appropriation *exceeds* \$2.25 billion, the states have their 1984 Formula allocations based on their share of the most current available data on low income home energy expenditures, subject to the HH Level and HH Rate provisions. In this scenario, some states will receive their HH Level or HH Rate amount, which is greater than the amount they would have received based on their share of low income home energy expenditures for that year, i.e., the state's allocation percentage under the 1984 Formula. Some states are held at a ceiling to fund the states for which allocations increased due to their HH Level or HH Rate amount.

When the funding amount exceeds the thresholds for the hold harmless provisions, the following procedures determine which of the following applies to a state's allocation through the 1984 Formula—(1) the HH Level, (2) the HH Rate, (3) the state's allotment percentage, or (4) a ceiling.

From FY 2009 through FY 2020, LIHEAP funding exceeded \$2.25 billion annually. However, in the appropriations act, Congress directed that the funding amount to be allocated using the 1984 Formula at an amount less than the normal, statutory trigger to implement the 1984 Formula. The amount is also less than the thresholds for the 1984 Formula hold harmless provisions.

In order for HHS to still perform those hold harmless provisions when the 1984 Formula amount is less than \$1.975 billion, HHS adapted the funding formula to address the hybrid funding levels by adding the \$1.975 billion trigger amount to the 1984 Formula amount for a given year. Specifically, HHS determines each state's 1984 Formula amount as follows:¹⁵

- 1. Determine each state's allotment percentage from \$2.25 billion, which is used in determining the HH Rate.**

¹⁴ Approximately 150 tribes receive direct funding from HHS each year. This funding comes from the approximately 26 states that contain those tribes.

¹⁵ These steps are performed each year because the 1984 allotment percentages factor into each step, and those percentages vary each year based on updated data.

- a. Start with an appropriation of \$2.25 billion. Subtract deductions for other programs that arise from LIHEAP set-asides, such as Leveraging and REACH, if these set-asides apply. Then subtract set-asides for federal T&TA and for the territories' funding. Finally, determine each state's allocation based on its allotment percentage, its HH Level from \$1.975 billion, and its ceiling.
 - i. The ceiling is determined by multiplying a state's HH Level from \$1.975 billion by a variable factor ("ceiling ratio") designed to limit the total allocations to all states to the appropriation amount in this step (net of set-asides)¹⁶.
- b. Determine the relevant provision upon which to base the state's allocation at the \$2.25 billion appropriation amount in this step according to the following parameters:
 - i. The state's *1984 Formula allotment percentage* amount applies if it is greater than the HH Level, but less than the ceiling amount for the state.
 - ii. The state's *HH Level* applies if it is greater than the 1984 Formula allotment percentage amount to the state.
 - iii. The state's *ceiling* applies if the 1984 Formula allotment percentage amount is greater than the HH Level and the ceiling amount.
- c. Calculate each state's share of the appropriation of \$2.25 billion to determine its HH Rate from \$2.25 billion.

2. Determine each state's allotment percentage from \$2.14 billion, which is used in determining the HH Rate.

- a. Repeat Step 1, except replace the total hypothetical appropriation of \$2.25 billion from Step 1 with \$2.14 billion. Start with an appropriation of \$2.14 billion. Subtract deductions for other programs that arise from LIHEAP set-asides. Finally, determine a state's allocation based on its 1984 Formula allotment percentage, its HH Level from \$1.975 billion, and its ceiling.
 - i. The ceiling is determined by multiplying a state's HH Level from \$1.975 billion by a factor ("ceiling ratio") designed to limit the total

¹⁶ HHS developed a process to make states that are held harmless whole by capping the amounts that other states can receive. HHS sets this cap at different levels for different states, based on a constant factor (i.e., the "ceiling ratio") times each state's HH Level. HHS uses an iterative process to raise or lower this ratio, during which it runs a series of tests that determine whether the state should be held at (1) its HH Level; (2) its HH Rate; (3) the aforementioned cap; or (4) an amount that stems directly from its 1984 Formula percentage. The process ends when the amounts to all states, after application of these tests, add up to the total amount available.

allocations to all states to that which is available at this appropriation amount (net of set-asides).

- b. Determine the relevant provision to base the state's allocation at the \$2.14 billion appropriation amount in this step according to the following parameters:
 - i. The state's 1984 Formula allotment percentage amount applies if it is greater than the HH Level but less than the ceiling amount to the state.
 - ii. The state's HH Level applies if it is greater than the 1984 Formula allotment percentage amount to the state.
 - iii. The state's ceiling applies if the 1984 Formula allotment percentage amount is greater than the HH Level and the ceiling amount.
- c. Calculate each state's share of the hypothetical appropriation of \$2.14 billion to determine its HH Rate from \$2.14 billion.

3. Determine each state's 1984 allocation from the actual amount to be allocated through the 1984 Formula, plus \$1.975 billion.

- a. Start with the actual amount to be allocated through the 1984 Formula plus \$1.975 billion. Subtract set-asides for territories, then determine each state's allocation based on its current low income home energy expenditures, its HH Level at \$1.975 billion, its HH Rates from Step #1 and Step #2, and its ceiling.
 - i. The HH Rate amount is determined only for states that would receive less than one percent from an appropriation of \$2.25 billion. If a state's share of funding in Step 1 is less than 1%, then the HH Rate is determined using the greater of the rate the state would receive from \$2.25 billion (Step #1) or \$2.14 billion (Step #2), multiplied by the appropriation amount being modeled in the current step (Step #4). The HH Rate amount is \$0 for states that would receive greater than one percent from an appropriation of \$2.25 billion.
 - ii. The ceiling is determined by multiplying a state's HH Level from \$1.975 billion by a factor ("ceiling ratio") designed to limit the total allocations to all states to the appropriation amount in this step (after territorial set-asides).
- b. Determine the relevant provision to base the state's 1984 Formula allocation at the appropriation amount in this step according to the following parameters:
 - i. The state's 1984 Formula allotment percentage applies if it is greater than both the HH Level and HH Rate amount, but less than the ceiling amount to the state.

- ii. The state's HH Level applies if it is greater than both the HH Rate amount and the allotment percentage amount to the state.
 - iii. The state's HH Rate applies if it is greater than both the HH Level and the allotment percentage amount to the state.
 - iv. The state's ceiling applies if the allotment percentage amount is greater than the HH Level, HH Rate amount, and ceiling.
- 4. **Determine each state's 1984 Formula allocation from exactly \$1.975 billion, i.e., "1984 Formula base."** The funding formula is modeled at this level in order to back-out the \$1.975 billion added to the actual amount to be allocated through the 1984 Formula.
 - a. Repeat Step 1, except replace the \$2.25 billion from Step 1 with \$1.975 billion. Start with an appropriation of \$1.975 billion. Subtract set-asides for territories, then determine a state's allocation based on its allotment percentage, its HH Level from \$1.975 billion, and its ceiling.
 - i. The ceiling is determined by multiplying a state's HH Level at \$1.975 billion by a factor ("ceiling ratio") designed to limit the total allocations to all states to the appropriation amount in this step, net of set-asides.
 - b. Determine the relevant provision to base the state's 1984 Formula allocation at the appropriation amount in this step according to the following parameters:
 - i. The state's 1984 Formula allotment percentage is applicable if this is greater than the HH Level, but less than the ceiling amount to the state.
 - ii. The state's HH Level is applicable if this is greater than the allotment percentage amount to the state.
 - iii. The state's ceiling is applicable if the allotment percentage amount is greater than the HH Level and ceiling amount.
- 5. **Determine the state's actual allocation based on the 1984 Formula by subtracting the 1984 Formula base (results from Step 4) from the state's 1984 Formula inflated allocation (results from Step #3).** As noted earlier, this is a workaround to the 1984 Formula that is necessary because the funding amount is less than the \$1.975 billion trigger.

In summary, the HH Level applies to total appropriations above \$1.975 billion. The HH Rate, which works in conjunction with the HH Level, implements a second hold-harmless provision when appropriations are \$2.25 billion and above. The HH Rate protects the smaller allocation states.

In order to make whole the states being held harmless, other states must be ratably reduced. The reduction is achieved by setting a ceiling amount for each state. For states that are not being held harmless, if the ceiling amount is less than the amount they would receive based on their 1984 allotment percentage, then they receive the ceiling amount. It is the differences between the ceiling amount and amount based on the 1984 allotment percentages that makes whole those states that are being held harmless.

Thus, under the hybrid formula, there are four methods by which a state's 1984 Formula funding ultimately may be calculated:

1. 1984 allotment percentage
2. Hold Harmless Level
3. Hold Harmless Rate
4. Ceiling amount

The distribution of states that receive their 1984 Formula funding amount based on the 1984 allotment percentage, as opposed to the other three provisions, varies from year-to-year based on (1) the total appropriation amount, (2) the split in appropriation amounts between the 1981 and 1984 Formulas, and, to a smaller extent, (3) the annual data updates from external federal sources that drive each state's 1984 allotment percentage.

Because the 1984 allotment percentages change each year, a state might have their 1984 Formula funding determined based on their 1984 allotment percentage in one year but not the next. Likewise, when the appropriation directed through the 1984 Formula changes from one year to the next, the provision determining a state's 1984 Formula amount can change. Overall, when the split in appropriations between the 1981 Formula and 1984 Formula favors the 1981 formula, as has happened throughout the history of the hybrid formula, the changes in allotment percentage are less influential than the appropriation amount for determining whether a state will have its 1984 Formula amount based on its 1984 allotment percentage or another provision.

Breakeven Point— appropriation level where a state has its 1984 Formula amount based on its 1984 allotment percentage

Overview of the Breakeven Point

Based on the 1984 Formula, there is a breakeven point in terms of the funding level that is required for a state to receive its allocation based on its 1984 Formula allotment percentage, rather than its HH Level. Even at the funding level for the state with the highest breakeven point, states that would otherwise receive an allocation based on their 1984 allotment percentages must have their 1984 Formula amounts ratably reduced, per the statute, in order to implement the hold harmless provisions.

A particular state's breakeven point is determined using the following formula:

**Breakeven Point
in Total Program = \$1.975 billion X
Appropriation \$**

state's 1981 Formula %
state's 1984 allotment % for current year

For example, in FY 2020, the 1984 allotment percentage for Illinois was 4.28 percent and its 1981 Formula percentage was 5.81 percent. As such, the breakeven point for Illinois in FY 2020 was \$2.68 billion, which is calculated as \$1.975 billion * (5.81 percent / 4.28 percent).

More generally, if, in a given year, a state's FY 1981 Formula allotment percentage is 50 percent higher than its 1984 Formula allotment percentage for the current year, then that year's funding amount for the 1984 Formula would have to exceed \$1.975 billion by 50 percent for that state's 1984 Formula amount to be based on its 1984 allotment percentage rather than on its HH Level.

Impact of the HH Rate Provision on Breakeven Point

Theoretically, every state has a breakeven point at which it will receive its 1984 Formula allocation based on its 1984 Formula allotment percentage rather than its HH Level. It is important to remember that, From FY 2009 onward, the 1984 Formula allocation accounts for only a small portion of most states' total allocation for a year.

However, a state's breakeven point is limited by the 1984 Formula HH Rate provision in the LIHEAP statute, which causes certain states to receive their allocations based on the HH Rate no matter how high the total funding level goes. As noted earlier, the HH Rate is applicable to states that meet both of the following two conditions:

1. The state is a small allocation state¹⁷; and,
2. The percentage of funds that the state would receive from a total appropriation of \$2.25 billion or \$2.14 billion, whichever share is greater, exceeds the state's 1984 allotment percentage. This occurs when the state would receive more from a total appropriation of \$1.975 billion using its FY 1984 allotment percentage than it would from a total appropriation of \$2.25 billion or \$2.14 billion using its 1984 allotment percentage.

If the HH Rate is applicable to the state based on these conditions, then the state will continue to receive its HH Rate percentage rather than its FY 1984 allotment percentage no matter how high the total funding level reaches. Again, a state that receives its HH

¹⁷ A small allocation state is one that would have gotten less than one percent of the total available to all states under a contemporaneous appropriation of exactly \$2.25 billion, as specified by the statute.

Rate, receives more funding from that appropriation than it would have if it were based on its FY 1984 allotment percentage at that total funding level.

If a state is not a small state, then the HH Rate is not applicable to the state, and the state has a breakeven point based on its FY 1984 allotment percentage.

If a state is a small state, but has a FY 1984 allotment percentage that is greater than its HH Rate from appropriations of \$2.25 billion and \$2.14 billion, then the HH Rate is not applicable to the state, and the state has a breakeven point based on its FY 1984 allotment percentage.¹⁸

Explanation of FY 1981 Factors and 1984 Formula Allotment Percentages

A state's breakeven point depends on how its 1984 allotment percentage relates to its 1981 Formula factor. As such, it is important to understand how these factors were developed and how they differ.

HHS used different methodology to develop each state's 1981 allotment percentages than it currently uses to determine each state's 1984 Formula allotment percentages. The data underlying the 1981 allotment percentages—which have and will always remain static—influences the 1984 Formula HH Levels for states in that the 1984 Formula HH Level analyzes what each state would have received in FY 1984 had the total appropriation equaled \$1.975 billion, as previously discussed. The FY 1981 allotment percentages were developed based upon data factors including heating degree days squared, home heating expenditures, total residential energy expenditures, and population with income equal to or less than 125 percent of poverty.

The 1984 Formula allotment percentages are derived from estimates of home energy expenditures by low income households. These estimates are based upon data factors including residential energy consumption and prices, Heating Degree Days, Cooling Degree Days, and the share of the population that is low income according to the federal maximum income-eligibility guidelines. The major difference between the 1981 allotment percentages and the 1984 allotment percentages is that the 1981 allotment percentages placed a much greater emphasis on heating expenditures than the 1984 allotment percentages.

Analysis of Breakeven Point for FY 2020

Table 2 below shows the calculation of the breakeven point for each state using their 1984 allotment percentages for FY 2020 (i.e., the percentages that HHS derives from the most current data available for FY 2020). The breakeven point changes every year because these percentages change every year. **The maximum total appropriation breakeven point is \$4,013,888,370— meaning, this is the total funding level at which**

¹⁸ When a small state's allotment percentage is nearly equal to its HH Rate, rounding adjustments to the dollar amounts that a state receives in the two normal hold harmless scenarios can result a shift between the HH Rate or allocation percentage determining the state's 1984 Formula amount.

each state that has a breakeven point (if not for the impact of the HH Rate) would receive their allocations based on their 1984 allotment percentages for FY 2020 as opposed to one of the other 1984 Formula methods.¹⁹

Achieving this total funding amount maximizes the number of states that receive a 1984 Formula allocation amount based on the state's allocation percentage, i.e., the data updates for that year, as opposed to a hold harmless or ceiling reduction. This in turn minimizes the number of states whose total funding for a given year is based solely on the static 1981 Formula, even when a hybrid formula is used.

Table 2: Breakeven Point Analysis for FY 2020

State	1984 Formula Allotment Percentage for FY 2020	FY 1981 Allotment Percentage	HH Rate Percentage (\$2.25B)	HH Rate Percentage (\$2.14B)	Is state a “small allocation state”? ²⁰	Is HH Rate applicable to state? ²¹	Breakeven Point
Alabama	1.9883%	0.8600%	1.1939%	1.0460%	No	No	\$854,274,800
Alaska	0.3895%	0.5490%	0.4843%	0.5092%	Yes	Yes	N/A
Arizona	1.5381%	0.4159%	0.5774%	0.5059%	Yes	No	\$534,067,036
Arkansas	0.9782%	0.6563%	0.9110%	0.7982%	Yes	No	\$1,324,991,725
California	5.8540%	4.6139%	5.8540%	5.6117%	No	No	\$1,556,610,062
Colorado	1.6832%	1.6087%	1.6832%	1.6832%	No	No	\$1,887,591,778
Connecticut	1.8157%	2.0986%	1.8513%	1.9466%	No	No	\$2,282,780,906
Delaware	0.3884%	0.2786%	0.3867%	0.3388%	Yes	No	\$1,416,610,865
District of Columbia	0.2345%	0.3259%	0.2875%	0.3023%	Yes	Yes	N/A
Florida	4.5740%	1.3608%	1.8892%	1.6551%	No	No	\$587,600,823
Georgia	3.7587%	1.0760%	1.4937%	1.3086%	No	No	\$565,367,372
Hawaii	0.1412%	0.1084%	0.1412%	0.1318%	Yes	Yes	N/A
Idaho	0.5027%	0.6275%	0.5536%	0.5821%	Yes	Yes	N/A
Illinois	4.2771%	5.8087%	5.1242%	5.3880%	No	No	\$2,682,232,746
Indiana	1.8579%	2.6300%	2.3201%	2.4395%	No	No	\$2,795,789,663
Iowa	0.9918%	1.8639%	1.6443%	1.7289%	No	No	\$3,711,526,168
Kansas	1.0891%	0.8560%	1.0891%	1.0411%	No	No	\$1,552,282,974
Kentucky	1.5723%	1.3686%	1.5723%	1.5723%	No	No	\$1,719,198,749
Louisiana	1.7358%	0.8793%	1.2206%	1.0694%	No	No	\$1,000,430,555
Maine	0.7706%	1.3596%	1.1994%	1.2611%	No	No	\$3,484,533,379

¹⁹ The maximum breakeven point—\$4,013,888,370—is based on the funding level needed to ensure that Minnesota receives its allocation based on its FY 1984 allotment percentage, based on FY 2020 data, rather than its HH Level. Since territories receive a percentage of the annual appropriation, and there are other set-asides specified in the appropriation, those would need to be factored in before determining the breakeven appropriation. Minnesota has the highest breakeven point because the ratio between its 1981 percentage and 1984 percentage for the current year is the greatest among states not receiving their Hold Harmless Rate.

²⁰ “Is state a ‘small state?’” means: “Would the state have gotten less than one percent of the total available to all states under a contemporaneous appropriation of exactly \$2.25 billion?”

²¹ “Is HH Rate applicable to state?” means: “(1) is the state a ‘small state’ and (2) is the 1984 allotment percentage for FY 2020 less than the maximum 1984 Formula HH Rate percentage?”

State	1984 Formula Allotment Percentage for FY 2020	FY 1981 Allotment Percentage	HH Rate Percentage (\$2.25B)	HH Rate Percentage (\$2.14B)	Is state a “small allocation state”? ²⁰	Is HH Rate applicable to state? ²¹	Breakeven Point
Maryland	2.3437%	1.6069%	2.2308%	1.9544%	No	No	\$1,354,107,749
Massachusetts	3.1995%	4.1980%	3.7033%	3.8939%	No	No	\$2,591,360,148
Michigan	3.8890%	5.5148%	4.8650%	5.1154%	No	No	\$2,800,680,615
Minnesota	1.9549%	3.9731%	3.5049%	3.6853%	No	No	\$4,013,888,370
Mississippi	1.0840%	0.7374%	1.0236%	0.8968%	No	No	\$1,343,478,742
Missouri	2.2200%	2.3202%	2.2200%	2.2200%	No	No	\$2,064,127,064
Montana	0.3930%	0.7360%	0.6493%	0.6827%	Yes	Yes	N/A
Nebraska	0.5121%	0.9218%	0.8132%	0.8550%	Yes	Yes	N/A
Nevada	0.8107%	0.1953%	0.2712%	0.2376%	Yes	No	\$475,930,446
New Hampshire	0.6609%	0.7946%	0.7010%	0.7370%	Yes	Yes	N/A
New Jersey	3.0531%	3.8972%	3.4379%	3.6149%	No	No	\$2,520,999,095
New Mexico	0.6516%	0.5207%	0.6516%	0.6333%	Yes	Yes	N/A
New York	7.2672%	12.7248%	11.2254%	11.8032%	No	No	\$3,458,218,326
North Carolina	3.1682%	1.8964%	2.6326%	2.3065%	No	No	\$1,182,188,203
North Dakota	0.2580%	0.7995%	0.7053%	0.7416%	Yes	Yes	N/A
Ohio	3.8855%	5.1386%	4.5331%	4.7664%	No	No	\$2,611,951,730
Oklahoma	1.5540%	0.7906%	1.0975%	0.9615%	No	No	\$1,004,725,758
Oregon	0.9862%	1.2468%	1.0999%	1.1565%	No	No	\$2,496,971,095
Pennsylvania	4.5611%	6.8351%	6.0297%	6.3401%	No	No	\$2,959,634,892
Rhode Island	0.5194%	0.6910%	0.6096%	0.6410%	Yes	Yes	N/A
South Carolina	1.7356%	0.6831%	0.9482%	0.8308%	Yes	No	\$777,251,726
South Dakota	0.2479%	0.6494%	0.5729%	0.6023%	Yes	Yes	N/A
Tennessee	2.1611%	1.3864%	1.9247%	1.6862%	No	No	\$1,266,993,042
Texas	8.1740%	2.2640%	3.1430%	2.7536%	No	No	\$547,025,521
Utah	0.6324%	0.7476%	0.6595%	0.6934%	Yes	Yes	N/A
Vermont	0.3899%	0.5956%	0.5254%	0.5524%	Yes	Yes	N/A
Virginia	2.7854%	1.9574%	2.7173%	2.3807%	No	No	\$1,387,903,581
Washington	1.7811%	2.0509%	1.8092%	1.9023%	No	No	\$2,274,082,566
West Virginia	0.7663%	0.9057%	0.7990%	0.8401%	Yes	Yes	N/A
Wisconsin	1.9891%	3.5764%	3.1549%	3.3173%	No	No	\$3,550,981,212
Wyoming	0.2241%	0.2993%	0.2640%	0.2776%	Yes	Yes	N/A

Section II: Impacts of Recent Congressional Directives (FY 2018-FY 2020)

- For FY 2018, Congress appropriated \$3,640,304,000. This represented a 7.4 percent increase over FY 2017's appropriation of \$3,390,304,000. Congress also specified that \$2,961,804,000 be allocated under the 1981 Formula, with the remainder of \$678,500,000 allocated under the 1984 Formula. **The 1981 Formula funding subtotal from Congress changed by only 2.2 percent from FY 2017; however, the 1984 Formula funding subtotal from Congress changed by 38.2 percent.**
- For FY 2019, Congress appropriated \$3,690,304,000. This represented a 1.4 percent increase from the previous year. Congress also specified that \$2,974,304,000 be allocated under the 1981 Formula, with the remainder of \$716,000,000 allocated under the 1984 Formula. These portions changed by 0.4 percent and 5.5 percent from FY 2018, respectively.
- For FY 2020, prior to the CARES Act, Congress appropriated regular funding of \$3,740,304,000 (Public Law 116-94). This also represented a 1.4 percent increase from the previous year. Congress also specified a similar increase over the previous year's allocations under the 1981 Formula, of 0.3 percent or \$2,984,316,000, leaving \$753,000,000 to be allocated under the 1984 Formula.

In FY 2019, four states experienced greater than ten percent declines in their 1984 Formula data updates resulting in two of them receiving less funding overall in that year. Congress responded by adopting a new, third HH provision applicable to the FY 2020 funds. This provision required HHS to (1) hold all states and territories harmless at 97 percent of the FY 2019 award amounts, and (2) fund the states and territories which otherwise would have received less than that level by ratably reducing the states and territories that otherwise would have received over 100 percent of their FY 2019 awards.

Even with this provision, five states had declines in their FY 2020 allocations of greater than 2.5 percent from their FY 2019 allocations. These and other states' variations stemmed from (1) changes in fuel consumption, particularly residential heating fuel oil; (2) changes in the methodology of the U.S. Department of Energy's (DOE's) Residential Energy Consumption Survey (RECS); and (3) changes in the Congressionally specified distribution between the 1981 Formula and the 1984 Formula.

States have indicated that unanticipated changes in their LIHEAP allocations create administrative burdens because of the difficulty they have with estimating and planning their budgets.

With the CARES Act supplemental funding enactment (Public Law 116-136), Congress appropriated a total of \$4,640,304,000 in LIHEAP funding in FY 2020. This raised the increase in funding from the previous year to 25.7 percent. Congress also specified that \$1,428,000,000 be allocated under the 1984 Formula, with the remainder of \$3,209,316,000 allocated under the 1981 Formula. These constituted increases over the previous years' levels of 99.4 percent and 7.9 percent, respectively.

The FY 2019 and pre-CARES FY 2020 appropriations generated approximately the same distribution of changes between the allocation shares. After the CARES Act enactment, the distribution of the changes in allocation shares was less pronounced because the increased funding resulted in more states having their 1984 Formula amounts based on their 1984 allotment percentages

- In FY 2019, three states had a percent difference between the share of funding they actually received and their 1984 allotment percentage of negative 40 percent or less and 10 states had a percent difference of 40 percent or more (the range in the percent difference was -49.04 percent to 149.19 percent).
- In FY 2020, prior to the CARES Act, five states had a percent difference between the share of funding they actually received and their 1984 allotment percentage of negative 40 percent or less and nine states had a percent different of 40 percent or more (the range in the percent difference was -52.79 percent to 124.93 percent).
- In FY 2020, after the CARES Act, one state had a percent difference between the share of funding actually received and their 1984 allotment percentage of negative 40 percent and six states had a percent difference of 40 percent or more (the range in the percent difference was -40.00 percent to 125.28 percent).

Analysis of the 2020 Formula Modification that met the 97 percent-of-FY 2019-Floor Comparison to FY 2019

The CARES Act supplemental allocation did not make any impact on the third hold-harmless provision of Public Law 116-94. Grantees had already reached their allocations to at least 97 percent of their FY 2019 awards.

For FY 2020, a number of factors drove the changes in the 1984 allotment percentages, which are based on updated external, federal data. These consisted of (1) increased low income electric heating expenditures; (2) increased low income cooling expenditures; and (3) decreased low income fuel oil and kerosene expenditures. In addition, the DOE's Energy Information Administration (EIA) updated a set of underlying data for the first time since FY 2015. For FY 2020, ACF used the 2015 Residential Energy Consumption Survey (RECS), mentioned previously in this report, which became available in FY 2019.

In Table 2, Table 3, and Table 4 below, the columns labeled **Percent Difference from 1984 Allotment Percentage** show the percentage by which the actual net allocation share deviated from the 1984 allotment percentage. If a state's net allocation²² derived solely from its 1984 allotment percentage, then it would have received the same share of the amount available to all states as its share of the low income households' home energy expenditures in all states. This column shows the percentage by which its actual **Net Allocation** deviated from that hypothetical net allocation.

²² "Net allocation", which applies to state grantees only, is a state's allocation after deducting funds for ACF directly funded tribal grantees in that state's area. ACF directly funds approximately 150 tribal LIHEAP grantees each year, on average, across most states.

Final FY 2020 Appropriation, Public Law 116-94

Public Law 116-94 distributed FY 2020 funds to states in a fashion that differed from the states' 1984 Formula percentages. These differences appear in Table 2.

***Table 2: FY 2020 Net Allocations and Net Allocation Shares from Public Law 116-94
Compared to 1984 Allotment Percentages²³***

State	FY 2020 Net Allocation	FY 2020 Net Allocation Share	1984 Allotment Percentage (dynamic)	Percent Difference from 1984 Allotment Percentage
Alabama	\$61,142,676	1.66%	1.99%	-16.34%
Alaska	\$11,305,117	0.31%	0.39%	-21.04%
Arizona	\$28,592,387	0.78%	1.54%	-49.43%
Arkansas	\$33,108,910	0.90%	0.98%	-7.92%
California	\$205,301,307	5.59%	5.85%	-4.59%
Colorado	\$61,658,279	1.68%	1.68%	-0.35%
Connecticut	\$73,032,152	1.99%	1.82%	9.42%
Delaware	\$13,368,391	0.36%	0.39%	-6.35%
District of Columbia	\$11,439,253	0.31%	0.23%	32.70%
Florida	\$97,992,371	2.67%	4.57%	-41.72%
Georgia	\$77,490,150	2.11%	3.76%	-43.91%
Hawaii	\$4,943,018	0.13%	0.14%	-4.77%
Idaho	\$20,955,690	0.57%	0.50%	13.40%
Illinois	\$173,899,852	4.73%	4.28%	10.61%
Indiana	\$78,019,664	2.12%	1.86%	14.24%
Iowa	\$55,298,302	1.50%	0.99%	51.67%
Kansas	\$38,176,258	1.04%	1.09%	-4.64%
Kentucky	\$56,579,812	1.54%	1.57%	-2.10%
Louisiana	\$55,804,633	1.52%	1.74%	-12.54%
Maine	\$38,861,542	1.06%	0.77%	37.19%
Maryland	\$80,013,115	2.18%	2.34%	-7.12%
Massachusetts	\$132,190,429	3.60%	3.20%	12.40%
Michigan	\$162,672,842	4.43%	3.89%	13.79%
Minnesota	\$117,873,568	3.21%	1.95%	64.03%
Mississippi	\$36,614,355	1.00%	1.08%	-8.11%
Missouri	\$83,198,518	2.26%	2.22%	1.95%
Montana	\$21,317,443	0.58%	0.39%	47.56%
Nebraska	\$32,334,724	0.88%	0.51%	71.78%
Nevada	\$14,068,959	0.38%	0.81%	-52.79%

²³ The percentage differences are those between the actual net allocation shares and the 1984 Formula allotment percentages of the respective year. For example, in FY 2020 (pre-CARES funding), the data estimated that Alabama had 1.99% of the nation's low income household home energy expenditures (1984 Formula), but due to the Congressional directives in the appropriation, Alabama actually received 1.66% of the total funding available to all grantees that year. This represented a decrease of 16.34% to this state's share of total funding to grantees.

State	FY 2020 Net Allocation	FY 2020 Net Allocation Share	1984 Allotment Percentage (dynamic)	Percent Difference from 1984 Allotment Percentage
New Hampshire	\$27,888,638	0.76%	0.66%	14.80%
New Jersey	\$121,729,563	3.31%	3.05%	8.47%
New Mexico	\$21,746,827	0.59%	0.65%	-9.21%
New York	\$377,312,676	10.26%	7.27%	41.25%
North Carolina	\$103,021,488	2.80%	3.17%	-11.54%
North Dakota	\$21,327,671	0.58%	0.26%	124.93%
Ohio	\$156,594,877	4.26%	3.89%	9.64%
Oklahoma	\$43,890,527	1.19%	1.55%	-23.17%
Oregon	\$38,364,219	1.04%	0.99%	5.83%
Pennsylvania	\$202,960,781	5.52%	4.56%	21.05%
Rhode Island	\$24,211,731	0.66%	0.52%	26.81%
South Carolina	\$49,004,387	1.33%	1.74%	-23.19%
South Dakota	\$19,234,040	0.52%	0.25%	111.10%
Tennessee	\$72,424,215	1.97%	2.16%	-8.83%
Texas	\$163,052,186	4.44%	8.17%	-45.73%
Utah	\$25,872,176	0.70%	0.63%	11.29%
Vermont	\$20,903,527	0.57%	0.39%	45.86%
Virginia	\$95,393,440	2.60%	2.79%	-6.83%
Washington	\$65,779,693	1.79%	1.78%	0.47%
West Virginia	\$31,789,631	0.86%	0.77%	12.85%
Wisconsin	\$106,103,137	2.89%	1.99%	45.11%
Wyoming	\$10,005,183	0.27%	0.22%	21.48%
TOTAL	\$3,675,864,330			

CARES Act, (Public Law 116-136)

The CARES Act also distributed FY 2020 funds to states in a fashion that differed from the states' 1984 Formula percentages. These differences appear in Table 3.

Table 3: Net Allocations and Net Allocation Shares from the CARES Act (Public Law 116-136), Compared to 1984 Allotment Percentages²⁴

State	CARES Act Net Allocation	CARES Net Allocation Share	1984 Allotment Percentage (dynamic)	Percent Difference from 1984 Allotment Percentage
Alabama	\$16,453,698	1.86%	1.99%	-6.49%
Alaska	\$2,743,872	0.31%	0.39%	-20.40%
Arizona	\$16,487,776	1.86%	1.54%	21.13%

²⁴ The percentage differences are those between the actual net allocation shares and the 1984 Formula allotment percentages of the respective year. For example, for CARES funding, the data estimated that Alabama had 1.99% of the nation's low income household home energy expenditures (1984 Formula), but due to the Congressional directives in the appropriation, Alabama actually received 1.86% of the total CARES funding available to all grantees that year. This represented a decrease of 6.49% to this state's share of total CARES funding to grantees.

State	CARES Act Net Allocation	CARES Net Allocation Share	1984 Allotment Percentage (dynamic)	Percent Difference from 1984 Allotment Percentage
Arkansas	\$8,206,119	0.93%	0.98%	-5.21%
California	\$49,518,231	5.60%	5.85%	-4.42%
Colorado	\$15,420,140	1.74%	1.68%	3.52%
Connecticut	\$14,069,603	1.59%	1.82%	-12.44%
Delaware	\$3,258,876	0.37%	0.39%	-5.18%
District of Columbia	\$2,776,428	0.31%	0.23%	33.77%
Florida	\$56,507,212	6.39%	4.57%	39.60%
Georgia	\$44,684,626	5.05%	3.76%	34.33%
Hawaii	\$1,190,942	0.13%	0.14%	-4.70%
Idaho	\$5,086,169	0.57%	0.50%	14.32%
Illinois	\$41,841,335	4.73%	4.28%	10.54%
Indiana	\$16,991,924	1.92%	1.86%	3.34%
Iowa	\$4,221,430	0.48%	0.99%	-51.91%
Kansas	\$9,342,492	1.06%	1.09%	-3.07%
Kentucky	\$13,745,001	1.55%	1.57%	-1.22%
Louisiana	\$13,946,959	1.58%	1.74%	-9.21%
Maine	\$2,966,659	0.34%	0.77%	-56.50%
Maryland	\$19,406,402	2.19%	2.34%	-6.44%
Massachusetts	\$27,158,366	3.07%	3.20%	-4.08%
Michigan	\$35,130,421	3.97%	3.89%	2.07%
Minnesota	\$8,998,379	1.02%	1.95%	-47.99%
Mississippi	\$9,200,678	1.04%	1.08%	-4.09%
Missouri	\$20,299,324	2.29%	2.22%	3.32%
Montana	\$5,173,970	0.58%	0.39%	48.76%
Nebraska	\$7,852,336	0.89%	0.51%	73.27%
Nevada	\$8,112,854	0.92%	0.81%	13.08%
New Hampshire	\$6,768,870	0.76%	0.66%	15.73%
New Jersey	\$29,230,166	3.30%	3.05%	8.18%
New Mexico	\$5,383,505	0.61%	0.65%	-6.65%
New York	\$28,803,765	3.25%	7.27%	-55.21%
North Carolina	\$25,455,858	2.88%	3.17%	-9.21%
North Dakota	\$5,176,454	0.58%	0.26%	126.75%
Ohio	\$37,707,717	4.26%	3.89%	9.66%
Oklahoma	\$10,982,109	1.24%	1.55%	-20.15%
Oregon	\$9,423,593	1.06%	0.99%	7.97%
Pennsylvania	\$34,931,293	3.95%	4.56%	-13.46%
Rhode Island	\$5,876,445	0.66%	0.52%	27.83%
South Carolina	\$18,291,931	2.07%	1.74%	19.09%

State	CARES Act Net Allocation	CARES Net Allocation Share	1984 Allotment Percentage (dynamic)	Percent Difference from 1984 Allotment Percentage
South Dakota	\$4,668,305	0.53%	0.25%	112.81%
Tennessee	\$18,060,947	2.04%	2.16%	-5.57%
Texas	\$94,023,896	10.62%	8.17%	29.98%
Utah	\$6,279,454	0.71%	0.63%	12.20%
Vermont	\$5,073,509	0.57%	0.39%	47.05%
Virginia	\$23,356,803	2.64%	2.79%	-5.25%
Washington	\$16,469,046	1.86%	1.78%	4.48%
West Virginia	\$7,715,683	0.87%	0.77%	13.77%
Wisconsin	\$8,099,833	0.92%	1.99%	-53.99%
Wyoming	\$2,416,112	0.27%	0.22%	21.85%
TOTAL	\$884,987,516			

Public Law 116-94 and the CARES Act (Public Law 116-136)

Public Law 116-94 and the CARES Act, combined, distributed FY 2020 funds to states in a fashion that differed from the states' 1984 Formula percentages. These differences appear in Table 4.

Table 4: Net Allocations and Net Allocation Shares from the FY 2020 Appropriation and the CARES Act Combined, Compared to 1984 Allotment Percentages²⁵

State	Net Allocations—FY 2020 Approp. + CARES Act	Net Allocation Share	1984 Allotment Percentage (dynamic)	Percent Difference from 1984 Allotment Percentage
Alabama	\$77,596,374	1.70%	1.99%	-14.43%
Alaska	\$14,048,989	0.31%	0.39%	-20.92%
Arizona	\$45,080,163	0.99%	1.54%	-35.74%
Arkansas	\$41,315,029	0.91%	0.98%	-7.39%
California	\$254,819,538	5.59%	5.85%	-4.56%
Colorado	\$77,078,419	1.69%	1.68%	0.40%
Connecticut	\$87,101,755	1.91%	1.82%	5.18%
Delaware	\$16,627,267	0.36%	0.39%	-6.12%
District of Columbia	\$14,215,681	0.31%	0.23%	32.91%
Florida	\$154,499,583	3.39%	4.57%	-25.94%
Georgia	\$122,174,776	2.68%	3.76%	-28.73%
Hawaii	\$6,133,960	0.13%	0.14%	-4.75%

²⁵ The percentage differences are those between the actual net allocation shares and the 1984 Formula allotment percentages of the respective year. For example, in FY 2020 when regular and CARES funding is combined, the data estimated that Alabama had 1.99% of the nation's low income household home energy expenditures (1984 Formula), but due to the Congressional directives in the appropriation, North Dakota actually received 1.70% of the total funding available to all grantees that year. This represented a decrease of 14.43% to this state's share of total funding to grantees across all sources of funding.

State	Net Allocations— FY 2020 Approp. + CARES Act	Net Allocation Share	1984 Allotment Percentage (dynamic)	Percent Difference from 1984 Allotment Percentage
Idaho	\$26,041,859	0.57%	0.50%	13.58%
Illinois	\$215,741,187	4.73%	4.28%	10.60%
Indiana	\$95,011,588	2.08%	1.86%	12.13%
Iowa	\$59,519,732	1.31%	0.99%	31.58%
Kansas	\$47,518,750	1.04%	1.09%	-4.33%
Kentucky	\$70,324,813	1.54%	1.57%	-1.93%
Louisiana	\$69,751,592	1.53%	1.74%	-11.89%
Maine	\$41,828,201	0.92%	0.77%	19.01%
Maryland	\$99,419,517	2.18%	2.34%	-6.99%
Massachusetts	\$159,348,795	3.49%	3.20%	9.20%
Michigan	\$197,803,263	4.34%	3.89%	11.52%
Minnesota	\$126,871,947	2.78%	1.95%	42.29%
Mississippi	\$45,815,033	1.00%	1.08%	-7.33%
Missouri	\$103,497,842	2.27%	2.22%	2.22%
Montana	\$26,491,413	0.58%	0.39%	47.79%
Nebraska	\$40,187,060	0.88%	0.51%	72.07%
Nevada	\$22,181,813	0.49%	0.81%	-40.00%
New Hampshire	\$34,657,508	0.76%	0.66%	14.98%
New Jersey	\$150,959,729	3.31%	3.05%	8.41%
New Mexico	\$27,130,332	0.59%	0.65%	-8.71%
New York	\$406,116,441	8.90%	7.27%	22.53%
North Carolina	\$128,477,346	2.82%	3.17%	-11.09%
North Dakota	\$26,504,125	0.58%	0.26%	125.28%
Ohio	\$194,302,594	4.26%	3.89%	9.64%
Oklahoma	\$54,872,636	1.20%	1.55%	-22.58%
Oregon	\$47,787,812	1.05%	0.99%	6.25%
Pennsylvania	\$237,892,074	5.22%	4.56%	14.36%
Rhode Island	\$30,088,176	0.66%	0.52%	27.00%
South Carolina	\$67,296,318	1.48%	1.74%	-14.99%
South Dakota	\$23,902,345	0.52%	0.25%	111.43%
Tennessee	\$90,485,162	1.98%	2.16%	-8.20%
Texas	\$257,076,082	5.64%	8.17%	-31.04%
Utah	\$32,151,630	0.70%	0.63%	11.47%
Vermont	\$25,977,036	0.57%	0.39%	46.09%
Virginia	\$118,750,243	2.60%	2.79%	-6.52%
Washington	\$82,248,739	1.80%	1.78%	1.25%
West Virginia	\$39,505,314	0.87%	0.77%	13.03%
Wisconsin	\$114,202,970	2.50%	1.99%	25.88%

State	Net Allocations— FY 2020 Approp. + CARES Act	Net Allocation Share	1984 Allotment Percentage (dynamic)	Percent Difference from 1984 Allotment Percentage
Wyoming	\$12,421,295	0.27%	0.22%	21.55%
TOTAL	\$4,560,851,846			

Calculation Impact of 1984 Formula Funding Amount at Less than \$1.975 Billion

As previously discussed in Section I about the 2009 to Present – Hybrid Formulas, under the statutory formula, all amounts available to the states when the appropriation is less than \$1.975 billion run through the 1981 Formula only. When Congress appropriates a 1984 Formula funding amount less than \$1.975 billion—as it has done for the past 13 years—HHS has to subtract out the amounts that result from running that formula at *exactly* \$1.975 billion from the amounts that result from running that formula at \$1.975 billion *plus the smaller amount called -for by Congress*. This method causes some states to get \$0 under the 1984 Formula portion of the total appropriation.

FY 2018 and FY 2019 Regular Allocation Calculations—Comparison to FY 2020

The states' 1984 Formula allotment percentages fluctuated from FY 2018 to FY 2020 as shown in Table 5. Across those three years, the fluctuation ranged from 0.03 percent to over 2 percent, with the variance exceeding 0.50 percent for only, New York, Texas, Pennsylvania, Massachusetts, and Georgia.

**Table 5: Annual Fluctuations in 1984 Allotment Percentages for FY 2018 through FY 2020
(Sorted by Weighted Average)**

State	1984 Allotment Percentage for FY 2018	1984 Formula Allotment Percentage for FY 2019	1984 Formula Allotment Percentage for FY 2020	Weighted Average of 1984 Allotment Percentages for FY 2018- FY 2020
New York	9.15%	8.54%	7.27%	8.26%
Texas	7.49%	7.83%	8.17%	7.85%
California	5.52%	5.99%	5.85%	5.79%
Pennsylvania	5.62%	5.28%	4.56%	5.12%
Florida	4.23%	4.37%	4.57%	4.40%
Illinois	4.13%	4.36%	4.28%	4.25%
Michigan	4.01%	4.25%	3.89%	4.04%
Ohio	3.94%	3.96%	3.89%	3.93%
Massachusetts	4.05%	3.61%	3.20%	3.60%
Georgia	3.12%	3.31%	3.76%	3.42%
New Jersey	3.39%	3.25%	3.05%	3.22%
North Carolina	2.97%	3.00%	3.17%	3.05%
Virginia	2.74%	2.70%	2.79%	2.74%
Maryland	2.49%	2.37%	2.34%	2.40%
Missouri	2.22%	2.17%	2.22%	2.20%
Connecticut	2.26%	2.07%	1.82%	2.04%

State	1984 Allotment Percentage for FY 2018	1984 Formula Allotment Percentage for FY 2019	1984 Formula Allotment Percentage for FY 2020	Weighted Average of 1984 Allotment Percentages for FY 2018- FY 2020
Tennessee	1.90%	1.95%	2.16%	2.01%
Wisconsin	2.02%	1.99%	1.99%	2.00%
Minnesota	1.89%	1.85%	1.95%	1.90%
Indiana	1.79%	1.79%	1.86%	1.81%
Alabama	1.63%	1.72%	1.99%	1.79%
Louisiana	1.49%	1.59%	1.74%	1.61%
Washington	1.42%	1.51%	1.78%	1.58%
Kentucky	1.51%	1.55%	1.57%	1.54%
South Carolina	1.37%	1.46%	1.74%	1.54%
Colorado	1.42%	1.44%	1.68%	1.53%
Arizona	1.42%	1.54%	1.54%	1.50%
Oklahoma	1.29%	1.34%	1.55%	1.40%
Kansas	1.05%	1.05%	1.09%	1.07%
Mississippi	0.96%	0.94%	1.08%	1.00%
Iowa	1.00%	0.98%	0.99%	0.99%
Arkansas	0.93%	0.90%	0.98%	0.94%
Maine	1.02%	0.94%	0.77%	0.90%
Oregon	0.82%	0.84%	0.99%	0.89%
West Virginia	0.74%	0.79%	0.77%	0.77%
Nevada	0.75%	0.73%	0.81%	0.77%
New Hampshire	0.77%	0.73%	0.66%	0.72%
Rhode Island	0.76%	0.63%	0.52%	0.63%
New Mexico	0.55%	0.60%	0.65%	0.60%
Utah	0.53%	0.59%	0.63%	0.59%
Nebraska	0.53%	0.50%	0.51%	0.52%
Vermont	0.45%	0.46%	0.39%	0.43%
Alaska	0.44%	0.44%	0.39%	0.42%
Idaho	0.34%	0.36%	0.50%	0.41%
Delaware	0.41%	0.38%	0.39%	0.39%
Montana	0.35%	0.34%	0.39%	0.36%
North Dakota	0.28%	0.24%	0.26%	0.26%
South Dakota	0.25%	0.24%	0.25%	0.25%
District of Columbia	0.26%	0.19%	0.23%	0.23%
Wyoming	0.16%	0.19%	0.22%	0.20%
Hawaii	0.15%	0.15%	0.14%	0.15%

FY 2018, FY 2019, and FY 2020 Appropriations

In all three fiscal years, each state's total, net allocation/funding amount differed from its FY 1984 Formula allocation percentage. This is due to the hybrid approach in the annual appropriation. Across FY 2018 and FY 2019, the differences range from 51 percent

below to 140 percent above, compared with FY 2020's range of 40 percent below to 125 percent above. These percentages appear in Table 6 and Table 7. The full scope of these differences appears in Appendix 2.

Table 6: Net Allocations and Net Allocation Shares from the FY 2019 Appropriations Act [the Department of Health and Human Services Appropriations Act, 2019 (Public Law 115-245)], Compared to the 1984 Allotment Percentages for FY 2019²⁶

State	Net FY19 Allocation from P.L. 115-245	Net FY19 Allocation Share	1984 Allotment Percentage for FY19	Percent Difference from 1984 Allotment Percentage
Alabama	\$53,872,185	1.50%	1.72%	-12.74%
Alaska	\$11,057,827	0.31%	0.44%	-29.73%
Arizona	\$28,233,166	0.79%	1.54%	-49.04%
Arkansas	\$30,550,546	0.85%	0.90%	-5.92%
California	\$204,287,924	5.69%	5.99%	-5.05%
Colorado	\$53,793,334	1.50%	1.44%	4.15%
Connecticut	\$75,290,878	2.10%	2.07%	1.32%
Delaware	\$12,954,982	0.36%	0.38%	-5.89%
District of Columbia	\$11,189,028	0.31%	0.19%	61.49%
Florida	\$96,761,244	2.69%	4.37%	-38.37%
Georgia	\$76,516,601	2.13%	3.31%	-35.67%
Hawaii	\$5,010,952	0.14%	0.15%	-5.74%
Idaho	\$20,497,301	0.57%	0.36%	57.75%
Illinois	\$172,194,747	4.79%	4.36%	9.94%
Indiana	\$76,969,931	2.14%	1.79%	19.96%
Iowa	\$54,554,297	1.52%	0.98%	55.39%
Kansas	\$36,469,202	1.02%	1.05%	-3.61%
Kentucky	\$54,725,461	1.52%	1.55%	-1.47%
Louisiana	\$50,898,734	1.42%	1.59%	-10.72%
Maine	\$38,338,683	1.07%	0.94%	14.09%
Maryland	\$78,970,511	2.20%	2.37%	-7.26%
Massachusetts	\$136,278,792	3.79%	3.61%	5.23%
Michigan	\$165,260,871	4.60%	4.25%	8.31%
Minnesota	\$116,287,653	3.24%	1.85%	74.57%
Mississippi	\$32,205,287	0.90%	0.94%	-4.44%
Missouri	\$80,216,571	2.23%	2.17%	2.77%
Montana	\$20,851,142	0.58%	0.34%	69.73%
Nebraska	\$31,627,204	0.88%	0.50%	74.88%

²⁶ The percentage differences are those between the actual net allocation shares and the 1984 Formula allotment percentages of the respective year. For example, in FY 2019, the data estimated that Alabama had 1.72% of the nation's low income household home energy expenditures (1984 Formula), but due to the Congressional directives in the appropriation, Alabama actually received 1.50% of the total funding available to all grantees that year. This represented a decrease of 12.74% to this state's share of total funding to grantees.

State	Net FY19 Allocation from P.L. 115-245	Net FY19 Allocation Share	1984 Allotment Percentage for FY19	Percent Difference from 1984 Allotment Percentage
Nevada	\$13,892,204	0.39%	0.73%	-46.74%
New Hampshire	\$27,278,597	0.76%	0.73%	3.85%
New Jersey	\$124,026,908	3.45%	3.25%	6.37%
New Mexico	\$19,914,970	0.55%	0.60%	-6.84%
New York	\$372,236,171	10.36%	8.54%	21.38%
North Carolina	\$96,681,557	2.69%	3.00%	-10.26%
North Dakota	\$20,861,146	0.58%	0.24%	140.10%
Ohio	\$154,948,345	4.31%	3.96%	9.04%
Oklahoma	\$38,166,382	1.06%	1.34%	-20.59%
Oregon	\$35,844,337	1.00%	0.84%	18.39%
Pennsylvania	\$206,487,864	5.75%	5.28%	8.94%
Rhode Island	\$23,682,120	0.66%	0.63%	5.07%
South Carolina	\$45,497,728	1.27%	1.46%	-13.10%
South Dakota	\$18,813,311	0.52%	0.24%	121.40%
Tennessee	\$65,651,305	1.83%	1.95%	-6.35%
Texas	\$161,003,678	4.48%	7.83%	-42.75%
Utah	\$25,306,243	0.70%	0.59%	19.91%
Vermont	\$20,446,280	0.57%	0.46%	23.36%
Virginia	\$91,298,337	2.54%	2.70%	-5.97%
Washington	\$57,898,703	1.61%	1.51%	6.56%
West Virginia	\$31,094,260	0.87%	0.79%	9.18%
Wisconsin	\$104,675,585	2.91%	1.99%	46.40%
Wyoming	\$9,937,496	0.28%	0.19%	42.87%
TOTAL	\$3,591,508,581			

Table 7: Net Allocations and Net Allocation Shares from the FY 2018 Appropriations Act [the Consolidated Appropriations Act, 2018 (Public Law 115-141)], Compared to the 1984 Allotment Percentages for FY 2018²⁷

State	Net FY18 Allocation from P.L. 115-141	Net FY18 Allocation Share	1984 Allotment Percentage for FY18	Percent Difference from 1984 Allotment Percentage
Alabama	\$51,246,890	1.43%	1.63%	-12.02%
Alaska	\$11,018,073	0.31%	0.44%	-29.90%
Arizona	\$26,699,566	0.75%	1.42%	-47.44%
Arkansas	\$31,134,093	0.87%	0.93%	-6.58%
California	\$191,098,095	5.34%	5.52%	-3.31%
Colorado	\$53,174,674	1.49%	1.42%	4.48%
Connecticut	\$80,738,355	2.26%	2.26%	-0.39%
Delaware	\$13,653,457	0.38%	0.41%	-7.37%
District of Columbia	\$11,148,804	0.31%	0.26%	20.29%
Florida	\$91,505,258	2.56%	4.23%	-39.49%
Georgia	\$72,360,288	2.02%	3.12%	-35.19%
Hawaii	\$5,004,477	0.14%	0.15%	-5.89%
Idaho	\$20,423,613	0.57%	0.34%	66.14%
Illinois	\$171,007,959	4.78%	4.13%	15.74%
Indiana	\$77,420,936	2.16%	1.79%	20.85%
Iowa	\$54,873,978	1.53%	1.00%	52.85%
Kansas	\$36,171,862	1.01%	1.05%	-3.58%
Kentucky	\$53,571,684	1.50%	1.51%	-0.98%
Louisiana	\$48,120,020	1.34%	1.49%	-9.78%
Maine	\$38,793,016	1.08%	1.02%	5.78%
Maryland	\$81,679,806	2.28%	2.49%	-8.21%
Massachusetts	\$147,604,978	4.12%	4.05%	1.83%
Michigan	\$161,278,584	4.51%	4.01%	12.28%
Minnesota	\$116,969,082	3.27%	1.89%	73.15%
Mississippi	\$32,527,614	0.91%	0.96%	-4.91%
Missouri	\$81,052,432	2.26%	2.22%	2.20%
Montana	\$20,776,181	0.58%	0.35%	65.24%
Nebraska	\$31,513,258	0.88%	0.53%	64.84%
Nevada	\$13,137,592	0.37%	0.75%	-51.06%
New Hampshire	\$27,994,431	0.78%	0.77%	1.86%
New Jersey	\$127,410,239	3.56%	3.39%	4.97%
New Mexico	\$18,753,505	0.52%	0.55%	-5.12%

²⁷ The percentage differences are those between the actual net allocation shares and the 1984 Formula allotment percentages of the respective year. For example, in FY 2018, the data estimated that Alabama had 1.63% of the nation's low income household home energy expenditures (1984 Formula), but due to the Congressional directives in the appropriation, Alabama actually received 1.43% of the total funding available to all grantees that year. This represented a decrease of 12.02% to this state's share of total funding to grantees.

State	Net FY18 Allocation from P.L. 115-141	Net FY18 Allocation Share	1984 Allotment Percentage for FY18	Percent Difference from 1984 Allotment Percentage
New York	\$374,417,424	10.46%	9.15%	14.34%
North Carolina	\$95,607,094	2.67%	2.97%	-10.18%
North Dakota	\$20,786,148	0.58%	0.28%	104.24%
Ohio	\$154,050,894	4.30%	3.94%	9.15%
Oklahoma	\$36,842,711	1.03%	1.29%	-20.05%
Oregon	\$36,052,708	1.01%	0.82%	22.59%
Pennsylvania	\$214,780,545	6.00%	5.62%	6.79%
Rhode Island	\$26,857,973	0.75%	0.76%	-0.97%
South Carolina	\$43,107,127	1.20%	1.37%	-12.37%
South Dakota	\$18,745,676	0.52%	0.25%	108.32%
Tennessee	\$63,972,029	1.79%	1.90%	-5.87%
Texas	\$152,258,101	4.25%	7.49%	-43.18%
Utah	\$25,215,266	0.70%	0.53%	31.98%
Vermont	\$20,372,775	0.57%	0.45%	26.64%
Virginia	\$91,754,433	2.56%	2.74%	-6.28%
Washington	\$58,182,219	1.63%	1.42%	14.33%
West Virginia	\$30,982,475	0.87%	0.74%	16.48%
Wisconsin	\$105,288,970	2.94%	2.02%	45.75%
Wyoming	\$9,901,770	0.28%	0.16%	70.32%
TOTAL	\$3,579,039,138			

Table 8 shows, for each of FY 2018 through FY 2020, the percentage differences between the net allocation shares and the 1984 allotment percentages. This table is sorted by the percent difference of the weighted average of FY 2018 through FY 2020, as shown in the rightmost column.

The data in this table demonstrates that the formulas for these fiscal years caused the final total allocations of 29 states to exceed, on average over three fiscal years, the amounts that would have derived directly from the 1984 Allotment Percentages. These states are primarily in the northern part of the country. It also shows that the remaining 22 states are, other than Alaska, mostly in the south.

Table 8: Percentage Changes of Net Allocation Shares Compared to the 1984 Allotment Percentages for the Past Three Fiscal Years (highest to lowest positive and negative differences)²⁸

²⁸ The percentage differences are those between the actual net allocation shares and the 1984 Formula allotment percentages of the respective year. For example, in FY 2018, the data estimated that North Dakota had 0.28% of the nation's low income household home energy expenditures (1984 Formula), but due to the Congressional directives in the appropriation, North Dakota actually received 0.58% of the total funding available to all grantees that year. This represented an increase of 104.24% to this state's share of total funding.

State	FY 2018 Percentage Difference (from Table 7)	FY 2019 Percentage Difference (from Table 6)	FY 2020 Percentage Difference (from Table 5)	FY 2018-FY2020 Weighted Average Percentage Difference
North Dakota	104.24%	140.10%	125.28%	121.97%
South Dakota	108.32%	121.40%	111.43%	113.27%
Nebraska	64.84%	74.88%	72.07%	70.47%
Minnesota	73.15%	74.57%	42.29%	61.30%
Montana	65.24%	69.73%	47.79%	59.40%
Iowa	52.85%	55.39%	31.58%	45.29%
Wyoming	70.32%	42.87%	21.55%	41.01%
Idaho	66.14%	57.75%	13.58%	39.55%
Wisconsin	45.75%	46.40%	25.88%	38.22%
District of Columbia	20.29%	61.49%	32.91%	35.47%
Vermont	26.64%	23.36%	46.09%	32.24%
Utah	31.98%	19.91%	11.47%	20.04%
New York	14.34%	21.38%	22.53%	19.01%
Indiana	20.85%	19.96%	12.13%	17.16%
Oregon	22.59%	18.39%	6.25%	14.61%
West Virginia	16.48%	9.18%	13.03%	12.92%
Maine	5.78%	14.09%	19.01%	12.39%
Illinois	15.74%	9.94%	10.60%	12.00%
Michigan	12.28%	8.31%	11.52%	10.72%
Pennsylvania	6.79%	8.94%	14.36%	9.78%
Ohio	9.15%	9.04%	9.64%	9.29%
Rhode Island	-0.97%	5.07%	27.00%	9.27%
New Hampshire	1.86%	3.85%	14.98%	6.97%
Washington	14.33%	6.56%	1.25%	6.69%
New Jersey	4.97%	6.37%	8.41%	6.51%
Massachusetts	1.83%	5.23%	9.20%	5.05%
Colorado	4.48%	4.15%	0.40%	2.85%
Missouri	2.20%	2.77%	2.22%	2.36%
Connecticut	-0.39%	1.32%	5.18%	1.75%
Kentucky	-0.98%	-1.47%	-1.93%	-1.45%
Kansas	-3.58%	-3.61%	-4.33%	-3.84%
California	-3.31%	-5.05%	-4.56%	-4.23%
Hawaii	-5.89%	-5.74%	-4.75%	-5.48%
Mississippi	-4.91%	-4.44%	-7.33%	-5.66%
Virginia	-6.28%	-5.97%	-6.52%	-6.27%
Delaware	-7.37%	-5.89%	-6.12%	-6.57%
Arkansas	-6.58%	-5.92%	-7.39%	-6.68%
Tennessee	-5.87%	-6.35%	-8.20%	-6.82%
New Mexico	-5.12%	-6.84%	-8.71%	-6.92%
Maryland	-8.21%	-7.26%	-6.99%	-7.55%

State	FY 2018 Percentage Difference (from Table 7)	FY 2019 Percentage Difference (from Table 6)	FY 2020 Percentage Difference (from Table 5)	FY 2018-FY2020 Weighted Average Percentage Difference
North Carolina	-10.18%	-10.26%	-11.09%	-10.50%
Louisiana	-9.78%	-10.72%	-11.89%	-10.75%
Alabama	-12.02%	-12.74%	-14.43%	-13.04%
South Carolina	-12.37%	-13.10%	-14.99%	-13.46%
Oklahoma	-20.05%	-20.59%	-22.58%	-21.10%
Alaska	-29.90%	-29.73%	-20.92%	-26.71%
Georgia	-35.19%	-35.67%	-28.73%	-32.40%
Florida	-39.49%	-38.37%	-25.94%	-33.61%
Texas	-43.18%	-42.75%	-31.04%	-38.06%
Arizona	-47.44%	-49.04%	-35.74%	-43.20%
Nevada	-51.06%	-46.74%	-40.00%	-45.22%

Section III: Assessment of Available Data Sources

Data Sources That HHS Currently Uses to Calculate 1984 Allotment Percentages

To determine state allotments from the LIHEAP appropriation, the LIHEAP statute directs that HHS shall determine “the expenditure for home energy by low income households on the basis of the most recent satisfactory data available” to HHS.²⁹ For the more than 30 years, HHS has determined that the most satisfactory data available to determine the home energy expenditures by low income households in each state are the State Energy Data System (SEDS) and Residential Energy Consumption Survey (RECS). Both of these data sources are published by the DOE EIA. The SEDS is EIA’s approach to estimation of state-level *residential* energy consumption, prices, and expenditures. The RECS is EIA’s approach for examining detailed end uses of residential energy consumption, including heating and cooling usage. In general, the SEDS is focused on sectors (residential, commercial, etc.), while RECS focuses on detailed information concerning residential uses of energy (by appliance, end use type, etc.).

HHS supplements the SEDS and RECS data with population data from the American Community Survey (ACS), published by the U.S. Census Bureau (Census), as well as weather and climate data³⁰ published by the National Oceanic and Atmospheric Administration (NOAA).

²⁹ 42 U.S.C. § 8623(a)(4)).

³⁰ Weather data and climate data differ by the period covered. Weather data covers a single year, while climate data covers 30-year periods. HHS uses climate data to normalize its estimates of state-level low income home energy expenditures.

Assessment of Alternative Data Sources

In April 2020, the Division of Energy Assistance (DEA) at HHS—and its contractor, APPRISE—conducted a comprehensive review of these data sources and alternative data sources. The LIHEAP statute also directs that HHS consult with the Secretary of Energy regarding the collection of data concerning home energy consumption, including the amount, cost, and type of fuels used by low income households eligible for LIHEAP assistance.³¹ Accordingly, DEA and APPRISE met with staff from EIA to review the SEDS, RECS, and other data sources on residential energy to discuss advantages and limitations of the sources—as well as the extent to which any other EIA data source might be more appropriate.

Table 8 below provides an assessment of the advantages and disadvantages of the data sources currently used in the LIHEAP funding formula. Table 9 follows with an assessment of the pros and cons of the alternative data sources reviewed. Table 10 concludes with an assessment of the pros and cons of adjusting the current methodology for developing the low income home energy expenditures using alternative data sources.

³¹ 42 U.S.C. § 8629(a).

Table 9: Assessment of Data Sources Used in LIHEAP Funding Formula

Data Source [Federal Agency]	Use(s) in Determining LIHEAP formula Data Updates for the 1984 allotment Percentages	Advantages	Disadvantages
ACS [Census]	- Estimate of all households and low income households using each main heating fuel and overall to adjust SEDS total residential consumption estimates for low income households, by state	- Updated annually - Data for each state	- Time lag in data being published, e.g. 2013-2017 ACS was used for determining FY 2020 funding allocations
Monthly heating degree days (HDDs) and cooling degree days (CDDs) [NOAA]	- Weather normalization of SEDS consumption estimates, by state ³²	- Updated monthly - Data for each state* [Weather station data used for AK and HI because population-weighted statewide data are unavailable; MD used as a proxy for DC for consistency with long-term climate normal HDDs and CDDs]	None noted
Long-term climate normal HDDs and CDDs [NOAA]	- Weather normalization of SEDS consumption estimates, by state	- Data for each state [MD used as a proxy for DC because DC was included by NOAA in the MD estimates]	- State-level climate HDDs and CDDs have not been updated by NOAA since the 1971-2000 period.

³² The SEDS data for any state for any year reflect energy consumption that is either higher or lower than the expected energy consumption for a “normal weather year.” For example, if there were more heating degree days in a state than in a normal year, the heating fuel energy consumption will be higher than normal. If there were fewer cooling degree days in a state than in a normal year, the cooling energy consumption will be lower than normal. The 1984 allotment percentages are weather normalized in order to project what each state’s share of the low income home energy expenditures will be in the forthcoming fiscal year by making use of actual consumption data from the most recent year available. Since the best projection for the forthcoming fiscal year is that it will be a “normal” weather year, the SEDS consumption data for each state needs to be adjusted to what the consumption would have been in a normal weather year.

Data Source [Federal Agency]	Use(s) in Determining LIHEAP formula Data Updates for the 1984 allotment Percentages	Advantages	Disadvantages
SEDS [EIA]	<ul style="list-style-type: none"> - Total residential energy consumption, by fuel type by state - Average residential energy prices, by fuel type by state 	<ul style="list-style-type: none"> - Updated annually - Data for each state* - Includes all major residential heating fuel types - Consumption and price data - Data specific to residential end uses 	<ul style="list-style-type: none"> - Time lag in data being published, e.g. 2017 SEDS was used for determining FY 2020 funding allocations - Wood prices in SEDS are regional and wood consumption comes from the RECS and is regional - Residential coal consumption and prices no longer published (2010 SEDS was final year) - Fuel oil and natural gas consumption in multifamily residential buildings often is categorized in the SEDS under commercial consumption not residential [Note that this issue has long been recognized for fuel oil and the LIHEAP funding formula uses adjustment factors from the RECS to account for this. The issue for natural gas is a newer development based on the recent discussions with EIA staff. Additional examination of the issues and adjustment factors from the RECS likely will be needed.]
RECS [EIA]	<ul style="list-style-type: none"> - Regional adjustment factors to estimate heating portion of total residential consumption, by fuel type - Regional adjustment factors to estimate cooling portion of total residential consumption - Regional adjustment factors to estimate the share of residential energy used by low income households compared to all households - Regional adjustment factors to estimate fuel oil usage in multifamily residential buildings - Regional estimates of wood usage by households heating with wood - Weather normalization of adjustment factors 	<ul style="list-style-type: none"> - Only national data source allowing for detailed analysis residential energy end uses, which is used to develop adjustment factors for low income usage, heating usage, cooling usage, and usage in multifamily residential buildings - Includes all major residential heating fuel types - Data specific to residential end uses 	<ul style="list-style-type: none"> - Not updated annually; survey is fielded every 4 to 6 years - Time lag in data being published, e.g. 2015 RECS data unavailable until December 2018 - Regional analysis; state-level estimates not available due to small sample size of survey

Table 10: Assessment of Alternative Data Sources

Data Source [Federal Agency]	Advantages	Disadvantages
Electric Power Monthly [EIA]	<ul style="list-style-type: none"> - Published monthly - Data for each state - Consumption and price data - Data specific to residential end uses - Minimal time lag in data being published (two months for year-to-date totals in monthly publication) 	<ul style="list-style-type: none"> - Data for electric only - Potential issues with data reliability due to smaller sample size of monthly data collection
Electric Power Annual [EIA]	<ul style="list-style-type: none"> - Published annually - Data for each state - Consumption and price data - Data specific to residential end uses - Note that Electric Power Annual is the input source for electric price and consumption in the SEDS 	<ul style="list-style-type: none"> - Data for electric only - Time lag in data being published (10 months)
Natural Gas Monthly and Natural Gas Annual [EIA]	<ul style="list-style-type: none"> - Published monthly and annually - Data for each state - Consumption and price data - Specific to residential end uses - Minimal time lag in data being published for most states (two months for year-to-date totals for most states) 	<ul style="list-style-type: none"> - Data for natural gas only - Potential issues with data reliability due to smaller sample size of monthly data collection - For some states, there is a time lag (10 months) in availability of year-to-date totals due to sampling variability
Natural Gas Annual [EIA]	<ul style="list-style-type: none"> - Published monthly - Data for each state - Consumption and price data - Specific to residential end uses - Note that the Natural Gas Annual is the input source for natural gas price and consumption in the SEDS 	<ul style="list-style-type: none"> - Data for natural gas only - Time lag in data being published (10 months)
Prime Supplier Sales Volume [EIA]	<ul style="list-style-type: none"> - Published monthly and annually - Minimal time lag in data being published (typically, four months for annual publication) 	<ul style="list-style-type: none"> - Data for select states only, and the specific states can vary with each publication - Data for fuel oil and kerosene only - Consumption data only; does not include fuel price data - Not specific to residential end uses
Sales of Fuel Oil and Kerosene by End Use [EIA]	<ul style="list-style-type: none"> - Annual publication - Data for each state - Data specific to residential end uses 	<ul style="list-style-type: none"> - Time lag in data being published (12 months); given the timing of when the LIHEAP allotment percentages are prepared (June preceding fiscal year) and used (beginning of fiscal year), the time lag in this series means that this data series does not provide more current data than the SEDS for purposes of preparing the LIHEAP allotment percentages. - Data for fuel oil and kerosene only - Consumption data only; does not include fuel price data

Data Source [Federal Agency]	Advantages	Disadvantages
Adjusted Sales of Fuel Oil and Kerosene [EIA]	<ul style="list-style-type: none"> - Annual publication - Data for each state - Data specific to residential end uses 	<ul style="list-style-type: none"> - Time lag in data being published (12 months); given the timing of when the LIHEAP allotment percentages are prepared (June preceding fiscal year) and used (beginning of fiscal year), the time lag in this series means that this data series does not provide more current data than the SEDS for purposes of preparing the LIHEAP allotment percentages. - Data for fuel oil and kerosene only - Consumption data only; does not include fuel price data
Refiner Sales Volumes of Other Petroleum Products [EIA]	<ul style="list-style-type: none"> - Monthly and annual publication - Minimal time lag in data being published (typically, four months for annual publication) 	<ul style="list-style-type: none"> - Data for select states, the number can be limited for certain fuel type, and the specific states can vary with each publication - Data for fuel oil, kerosene, and propane only - Consumption data only; does not include fuel price data - Data not specific to residential end uses
U.S. Product Supplied for Crude Oil and Petroleum Products [EIA]	<ul style="list-style-type: none"> - Monthly and annual publication - Minimal time lag in data being published (typically, eight months for annual publication) 	<ul style="list-style-type: none"> - Data for Petroleum Administration for Defense Districts (PADDs) only - Data for natural gas, fuel oil, kerosene, and propane only - Consumption data only; does not include fuel price data - Data not specific to residential end uses
Refiner Petroleum Product Prices by Sales Type [EIA]	<ul style="list-style-type: none"> - Monthly and annual publication - Minimal time lag in data being published (typically, four months for annual publication) 	<ul style="list-style-type: none"> - Data for select states, the number of states can be limited for certain fuel types, and the specific states can vary with each publication - Data for fuel oil and kerosene only - Fuel price data only; does not include consumption data - Data not specific to residential end uses
Weekly Heating Oil and Propane Prices [EIA]	<ul style="list-style-type: none"> - Weekly publication during heating season - Minimal time lag in data being published - Data specific to residential end uses 	<ul style="list-style-type: none"> - Data for select states, and the specific states can vary with each publication - Data for fuel oil and kerosene only - Fuel price data only; does not include consumption data
Monthly Densified Biomass Fuel Report [EIA]	<ul style="list-style-type: none"> - Monthly publication - Minimal time lag in data being published (typically, three months) - Consumption and price data - Data specific to residential end uses 	<ul style="list-style-type: none"> - Data for Census Regions only - Data for wood only

Data Source [Federal Agency]	Advantages	Disadvantages
Short-Term Energy Outlook [EIA]	<ul style="list-style-type: none"> - Annual publication with short-term projections for subsequent 1.5 to two years - Includes most major residential heating fuel types (does not include kerosene) 	<ul style="list-style-type: none"> - Reliability of projections versus actual prices and consumption has not been examined by EIA - Geographic coverage varies by fuel type but none are specific to individual states - Availability of both fuel price and consumption projections varies by fuel type - Availability of residential end use projections varies by fuel type <ul style="list-style-type: none"> o Electric = residential end uses, prices and consumption available, Census Divisions projections o Natural gas = residential end uses, prices and consumption available, Census Divisions for prices but National for consumption o Fuel oil = largely residential (some small C&I likely included in estimates for specific fuel oil types), prices and consumption available, National projections o Propane = residential end uses, consumption only, National projections o Wood = residential end uses, consumption only, National projections o Coal = not specific to residential end uses, consumption only, National projections
Winter Fuels Outlook [EIA]	<ul style="list-style-type: none"> - Annual publication in October preceding the winter months (i.e., October 2019 provides heating fuel projections for 2019-2020 heating season) - Projections specific to residential end uses - Consumption and price projections 	<ul style="list-style-type: none"> - Reliability of projections versus actual prices and consumption has not been examined by EIA - Timing of publication means that projections for the winter heating months will not be available prior to LIHEAP appropriation (i.e., if the appropriation is determined prior to fiscal year start, and projections for the winter heating months are not available until early/mid-October of the fiscal year, then projections for the fiscal year winter months are not available prior to the drafting of the appropriation) - Data for natural gas, electricity, fuel oil, and propane only - Geographic coverage varies by fuel type but none are specific to individual states <ul style="list-style-type: none"> o Electric = Census Regions o Natural gas = Census Regions o Fuel oil = National o Propane = Northeast and Midwest Census Regions only
Summer Fuels Outlook	<ul style="list-style-type: none"> - Annual publication in April preceding the summer months (i.e., April 2020 provides summer electric projections for 2020 cooling season) - Projections specific to residential end use - Consumption and price estimates 	<ul style="list-style-type: none"> - Reliability of projections versus actual prices and consumption has not been examined by EIA - Timing of publication means that projections for the summer months of the fiscal year will not be available prior to the LIHEAP appropriation (i.e., if the appropriation is determined prior to fiscal year start, and projections for the summer months are not available until April of the fiscal year, then projections for the fiscal year summer months are not available prior to the drafting of the appropriation) - Projections for Census Divisions and not specific to individual states

Table 11: Assessment of Alternative Revised Methodologies for Estimating Low Income Home Energy Expenditures

Revised Methodology	Description	Issues and limitations	HHS Recommendation
Use annual estimates of electricity and prices from the Electric Power Annual instead of SEDS	EIA uses the Electric Power Annual and Natural Gas Annual as the input sources for electricity and natural gas usage and prices that feeds into the SEDS. HHS could use these sources instead of the SEDS for developing the low income home energy expenditures estimates for use in the LIHEAP funding formula.	<ul style="list-style-type: none"> - The Electric Power Annual and Natural Gas Annual are published in October of the subsequent year (i.e., October 2020 for electric and natural gas estimates corresponding to 2019). Based on the typical timing of LIHEAP appropriations, this means that HHS would not be using any more recent data than they otherwise would use based on the SEDS. - Based on discussions with EIA, the Electric Power Monthly and Natural Gas Monthly publications are less reliable than the annual publications, and the monthly estimates undergo revisions throughout the year. 	<ul style="list-style-type: none"> - Not recommended due to the data reliability challenges.
Use projections from Short-Term Energy Outlook (STEO) to project SEDS estimates to fiscal year of the funding	Use the STEO projections to adjust the SEDS from its historic period to the future period of the fiscal year in which the low income home energy expenditures will be used. Doing so means that the climate normalization procedure in the existing methodology would not be needed since the expenditures would be projected to a future period.	<ul style="list-style-type: none"> - Reliability of projections versus actual prices and consumption has not been examined by EIA. - Not all fuel types are included in the projections. - Adjustments will be regionally or nationally based rather than state specific. <p>[Note that some other adjustments used from the RECS are regionally or nationally based]</p>	<ul style="list-style-type: none"> - Not recommended due to the lack of reliability tested by the responsible federal agency and lack of availability of all fuel types data compared to current data sources employed by HHS for the LIHEAP funding formula.
Develop updated long-term climate normal HDDs and CDDs	Since this is not planned by NOAA, developing an updated set of long-term climate normals using a proxy procedure (taking the average of all weather stations in state) will result in using more current data.	<ul style="list-style-type: none"> - Reliability of the proxy procedure is unknown and would need to be examined by first using it to develop long-term climate normals for the 1971-2000 period to compare with the NOAA-published estimates. - The proxy procedures would not be population-weighted statewide averages, but rather simple averages of the weather station data in the state. 	<ul style="list-style-type: none"> - HHS is developing updated long-term climate normals using this approach during FY 2021.

Revised Methodology	Description	Issues and limitations	HHS Recommendation
Develop adjustment factors for natural gas consumed by multifamily residential buildings	Since natural gas consumed by multifamily residential buildings is categorized as commercial use in the SEDS based on the way in which individual utilities classify these meters, the SEDS is likely to undercount the usage of natural gas for residential end uses. Using the RECS to develop adjustment factors similar to those used for fuel oil heat in multifamily residential buildings, this will result in a better approximation of the natural gas used for residential heating.	<ul style="list-style-type: none"> - Additional discussion with the SEDS staff from EIA will be needed to estimate the share of natural gas usage in different states that is undercounted due to utilities reporting natural gas consumption in multifamily residential buildings as commercial end uses. - Adjustment factors will be regionally based rather than state specific due to the limitations for the RECS. <p>[Note that other adjustment factors used from the RECS are regionally or nationally based]</p>	<ul style="list-style-type: none"> - Recommend adoption if the responsible federal agency can confirm estimates of undercounted data.

Section IV: Analysis of State Funding Allocations and Program Outcomes for FY 2019

This section presents an analysis of state LIHEAP funding allocations for FY 2019 using multiple metrics to examine the impacts of allocation amounts and how they relate to LIHEAP's statutory purpose of providing grants to states to assist low income households with meeting home energy needs. For program outcomes, preliminary FY 2019 actual data is the most currently available data reported by state grantees.

As discussed in prior sections of this report, each state's annual allocation is determined based on multiple factors. As a result of annual changes in data used for the 1984 Formula and in the congressional funding instructions, state allocations vary by year in both absolute dollar amounts and the relative share of total funds. These changes can make it challenging to interpret state allocations, assess why allocation amounts or shares increase or decrease in a given year, and compare differences across states.

State Program Characteristics and Resulting Outcomes

LIHEAP is a block grant program that provides broad flexibility for states to design and implement their programs to meet local community needs. State program characteristics can result in different outcomes, regardless of the total appropriation amount or the split between the 1981 and 1984 Formula funding amounts appropriated by Congress.

Each year states implement a range of LIHEAP program components. During FY 2019, all states provided heating assistance and crisis assistance, the latter of which is required by the federal statute.³³ In addition to those two program components, 21 states provided cooling assistance, 49 states provided weatherization assistance, 26 states obligated funds for activities to encourage and enable households to reduce their home energy needs, 3 states obligated funds for the development of leveraging resources³⁴, and 10 states obligated funds for nominal payments to households receiving benefits from the U.S. Department of Agriculture's Supplemental Nutrition Assistance Program. Table 12 below provides information on states' selected income-eligibility criteria, uses of LIHEAP funds, and actual program outcomes for FY 2019. This table includes the following metrics:

- *Net Block Grant Allocation to State Grantee* – This is the final amount of block grant funds allocated to the state grantees in FY 2019, after excluding funds set aside for direct-funded tribal grantees.
- *Total LIHEAP Funds Allocated to State Grantee* – This is the total amount of funds allocated to the state grantees in FY 2019, after excluding funds set aside for direct-funded tribal grantees. This includes the net block grant allocation, emergency contingency funds, and allotment funds allocated to the state during the fiscal year.

³³ 42 U.S.C. § 8623(c)).

³⁴ Grantees have authority under the statute to use a capped portion of the federal LIHEAP funding towards seeking and coordinating non-federal resources, both monetary and in-kind, with their federal funding. For example, this can include the grantee's own contributions, as well as resources from businesses and utilities.

- *Number of Low Income Households* – This is the estimated number of income-eligible households in each state based on the federal maximum income standards. This is an estimate of the number of households who would be eligible to receive LIHEAP assistance if all grantees implemented their LIHEAP programs using the federal maximum income standards.
- *State Income Guidelines for 4-Person Household as % of FPG* – LIHEAP grantees can select income eligibility criteria within the range of 110 percent of poverty up to the greater of 150 percent of the federal poverty or 60 percent of state median income estimates (SMI). This is each state grantee's selected maximum income amount for heating assistance as a percentage of the HHS FPG. The information is shown as a percentage of the FPG because this provides an apples-to-apples comparison of selected income-eligibility criteria accounting for differences in state dollar cutoff amounts.
- *Percent of Funds Obligated to Bill Payment Assistance* – Grantees can utilize LIHEAP funds for various purposes, including assistance with paying energy bills, weatherization and equipment repair measures, and program administration. This is the percentage of funds allocated by each state to LIHEAP components that only provide bill payment assistance benefits. This includes heating assistance, cooling assistance, crisis assistance—which requires an intervention within 18 or 48 hours of a household's application depending on whether the situation is life-threatening.³⁵ This is calculated by dividing the total funds obligated to these LIHEAP components by the total LIHEAP funds allocated to the state during the fiscal year.
- *Number of Households Served with Any Type of Assistance* – This is the number of households that received any type of LIHEAP benefit from the state grantee during the fiscal year. Households that received multiple benefits are only included once. This is also known as to as the unduplicated household count which HHS required of state grantees beginning in FY 2011.
- *Percentage of Low Income Households Served* – This is the share of a state's estimated low income population, based on the number of federally income-eligible households, that received LIHEAP assistance during FY 2019. This is calculated by dividing the number of households served with any type of assistance by the number of total low income households.
- *Average Gross Residential Energy Burden for Recipient Households* – This is the mean (average) residential energy burden amount for LIHEAP recipient households *before* factoring in their LIHEAP benefits. This data is collected and reported by states for a sample of LIHEAP recipient households. Residential energy burden represents the share of a household's annual total income needed for annual total

³⁵ This includes winter crisis assistance, year-round crisis assistance, and summer crisis assistance depending on how the grantee offers this component to households. Funds obligated for other crisis assistance components are not included. These components generally provide non-bill payment assistance benefits, such as weatherization and emergency equipment repair and replacement.

energy expenditures, including energy expenditures for heating, cooling, appliance, and lighting usage.

- *Average Net Residential Energy Burden for Recipient Households* – This is the mean (average) residential energy burden amount for LIHEAP recipient households *after* factoring in their LIHEAP benefits. This data is collected and reported by states for a sample of LIHEAP recipient households.
- *Average Bill Payment Assistance Per Recipient Household* – This indicates the average amount of funds obligated for LIHEAP components that provide bill payment assistance benefits per household served. This is calculated by dividing the total funds obligated to bill payment assistance by the number of households served with any type of assistance. This is **not** equivalent to the average benefit amounts that states provide to households because households may receive multiple types of LIHEAP assistance. Additionally, grantees may use a portion of funds for outreach and other program costs, rather than direct benefits.

The FY 2019 actual data shown in Table 12 demonstrates that states vary in a number of ways, including the:

- income-eligibility criteria they use to define their LIHEAP-eligible population, with the eligibility maxima ranging from 110 percent to 263 percent of FPG;
- portion of funds they obligate to bill payment assistance, ranging from 49.09 percent to 93.51 percent;
- percentage of low income households served under the federal income eligibility maximum for that state, ranging from 4.63 percent to 46.16 percent;
- average gross residential energy burden (i.e. before factoring in LIHEAP) for the households they serve, ranging from 4.79 percent to 17.92 percent;
- average net residential energy burden (i.e. after factoring in LIHEAP) for households they serve, ranging from 1.27 percent to 16.35 percent; and
- average amount obligated to bill payment assistance per recipient household, ranging from \$224 to \$1,585.

Additional tables with historic state-by-state data for FY 2008 through FY 2018 are provided in Appendix 3.

Table 12: FY 2019 State Funds, Program Eligibility Criteria, Uses of Funds, and Outcomes for LIHEAP Recipients

State	Net Block Grant Allocation to State Grantee	Total LIHEAP Funds Allocated to State Grantee ³⁶	Number of Low Income Households ³⁷	State Income Guidelines for 4-Person Household as % of FPG ³⁸	Percent of funds Obligated to Bill Payment Assistance ³⁹	Number of Recipient Households Served with Any Type of LIHEAP Assistance ⁴⁰	Percentage of Low Income Households Served	Average Gross Residential Energy Burden for Recipient Households ⁴¹	Average Net Residential Energy Burden for Recipient Households ⁴²
Alabama	\$53,872,185	\$53,887,304	575,106	150%	83.38%	78,584	13.66%	16.51%	13.23%
Alaska	\$11,057,827	\$11,063,513	64,999	150%	84.72%	5,913	9.10%	NA	NA
Arizona	\$28,233,166	\$8,590,715	637,191	164%	69.73%	29,489	4.63%	16.16%	10.41%
Arkansas	\$30,550,546	\$30,562,140	326,686	147%	77.53%	70,837	21.68%	NA	NA
California	\$204,287,924	\$204,369,264	3,515,072	193%	53.54%	223,131	6.35%	14.19%	11.71%
Colorado	\$53,793,334	\$53,821,756	557,697	165%	60.92%	68,204	12.23%	9.12%	6.46%
Connecticut	\$75,290,878	\$75,327,952	424,233	263%	76.72%	81,456	19.20%	12.46%	9.39%
Delaware	\$12,954,982	\$12,959,903	101,561	150%	88.88%	10,904	10.74%	12.22%	7.88%
District of Columbia	\$11,189,028	\$11,194,786	78,309	231%	78.95%	10,435	13.33%	11.09%	4.54%
Florida	\$96,761,244	\$96,785,280	1,975,974	150%	90.75%	123,590	6.25%	15.50%	11.27%

³⁶ Total LIHEAP funds allocated to state grantee includes the net block grant allocation, emergency contingency funds, and reallocation funds allocated in FY 2019. It does not include funds carried over by states from the previous year.

³⁷ These estimates are based on data from the Census Bureau's 2014-2018 ACS. The number of federally income-eligible households is estimated using the federal maximum income standards (the greater of 150 percent of the HHS Poverty Guidelines or 60 percent of State Median Income estimates). These estimates include households who may be served by tribal grantees located in the state.

³⁸ The 2018 HHS Poverty Guidelines are available here: <https://aspe.hhs.gov/2018-poverty-guidelines>

³⁹ These data were reported by state grantees in their FY 2019 Performance Data Form – Grantee Surveys.

⁴⁰ These data were reported by state grantees in their FY 2019 LIHEAP Household Report.

⁴¹ Average gross residential energy burden for recipient households represents the group average energy burden before factoring in LIHEAP benefits. It is the average residential energy bill (heating fuel plus electric) divided by the average income. These data were reported by state grantees in their FY 2019 Performance Data Form – Performance Measures. States with “NA” did not have data available.

⁴² Average net residential energy burden for recipient households represents the group average energy burden after factoring in LIHEAP benefits. It is the average residential energy bill minus the average total LIHEAP benefit for bill payment assistance, divided by the average income. These data were reported by state grantees in their FY 2019 Performance Data Form – Performance Measures. States with “NA” did not have data available.

State	Net Block Grant Allocation to State Grantee	Total LIHEAP Funds Allocated to State Grantee ³⁶	Number of Low Income Households ³⁷	State Income Guidelines for 4-Person Household as % of FPG ³⁸	Percent of funds Obligated to Bill Payment Assistance ³⁹	Number of Recipient Households Served with Any Type of LIHEAP Assistance ⁴⁰	Percentage of Low Income Households Served	Average Gross Residential Energy Burden for Recipient Households ⁴¹	Average Net Residential Energy Burden for Recipient Households ⁴²
Georgia	\$76,516,601	\$76,535,608	1,015,917	169%	79.54%	161,012	15.85%	13.87%	10.46%
Hawaii	\$5,010,952	\$5,012,869	110,693	150%	80.04%	8,648	7.81%	7.69%	4.80%
Idaho	\$20,497,301	\$20,507,846	149,489	150%	53.35%	34,015	22.75%	9.33%	6.94%
Illinois	\$172,194,747	\$172,297,360	1,430,528	150%	74.99%	236,371	16.52%	14.29%	9.40%
Indiana	\$76,969,931	\$77,016,384	690,086	178%	72.75%	112,567	16.31%	15.33%	11.10%
Iowa	\$54,554,297	\$54,587,224	340,625	175%	70.95%	82,644	24.26%	11.38%	8.54%
Kansas	\$36,469,202	\$36,484,304	307,940	130%	65.97%	33,382	10.84%	14.60%	10.01%
Kentucky	\$54,725,461	\$54,749,640	545,139	130%	75.08%	111,151	20.39%	16.54%	15.11%
Louisiana	\$50,898,734	\$50,914,268	596,676	176%	75.55%	72,035	12.07%	14.20%	10.36%
Maine	\$38,338,683	\$38,361,824	160,941	150%	77.06%	31,123	19.34%	14.87%	8.84%
Maryland	\$78,970,511	\$78,998,896	624,821	175%	90.58%	96,322	15.42%	13.97%	10.13%
Massachusetts	\$136,278,792	\$136,352,880	824,818	263%	81.74%	155,792	18.89%	8.01%	4.21%
Michigan	\$165,260,871	\$165,357,632	1,150,627	110%	82.53%	369,270	32.09%	NA	NA
Minnesota	\$116,287,653	\$116,357,840	607,337	192%	75.03%	125,840	20.72%	10.83%	7.00%
Mississippi	\$32,205,287	\$32,218,288	342,923	144%	75.21%	40,990	11.95%	17.80%	12.91%
Missouri	\$80,216,571	\$80,257,552	676,428	135%	82.27%	114,639	16.95%	14.46%	11.61%
Montana	\$20,851,142	\$20,861,872	115,660	174%	49.09%	18,647	16.12%	8.76%	5.21%
Nebraska	\$31,627,204	\$31,643,480	201,084	130%	85.16%	38,507	19.15%	13.14%	7.71%
Nevada	\$13,892,204	\$13,895,655	257,131	150%	91.63%	24,501	9.53%	6.80%	3.32%
New Hampshire	\$27,278,597	\$27,292,632	143,635	245%	93.45%	29,989	20.88%	9.71%	5.30%
New Jersey	\$124,026,908	\$124,095,760	1,005,775	200%	83.88%	235,503	23.42%	11.59%	8.75%
New Mexico	\$19,914,970	\$19,923,754	222,855	150%	76.42%	67,914	30.47%	4.79%	2.23%
New York	\$372,236,171	\$372,460,832	2,281,482	213%	71.67%	1,053,204	46.16%	8.45%	5.95%
North Carolina	\$96,681,557	\$96,714,464	1,091,569	130%	76.42%	183,680	16.83%	12.81%	10.46%

State	Net Block Grant Allocation to State Grantee	Total LIHEAP Funds Allocated to State Grantee ³⁶	Number of Low Income Households ³⁷	State Income Guidelines for 4-Person Household as % of FPG ³⁸	Percent of funds Obligated to Bill Payment Assistance ³⁹	Number of Recipient Households Served with Any Type of LIHEAP Assistance ⁴⁰	Percentage of Low Income Households Served	Average Gross Residential Energy Burden for Recipient Households ⁴¹	Average Net Residential Energy Burden for Recipient Households ⁴²
North Dakota	\$20,861,146	\$20,871,880	88,912	217%	66.37%	13,119	14.76%	6.43%	1.27%
Ohio	\$154,948,345	\$155,039,136	1,385,849	175%	66.85%	268,198	19.35%	17.92%	16.35%
Oklahoma	\$38,166,382	\$38,178,840	401,526	130%	93.51%	106,088	26.42%	13.07%	9.78%
Oregon	\$35,844,337	\$35,866,000	403,275	177%	70.90%	57,392	14.23%	8.10%	5.68%
Pennsylvania	\$206,487,864	\$206,608,624	1,524,708	150%	70.51%	329,243	21.59%	13.62%	11.26%
Rhode Island	\$23,682,120	\$23,694,328	132,290	223%	73.80%	29,756	22.49%	8.58%	6.83%
South Carolina	\$45,497,728	\$45,509,796	519,675	150%	84.08%	44,771	8.62%	5.39%	1.44%
South Dakota	\$18,813,311	\$18,822,992	89,692	175%	89.90%	21,823	24.33%	11.68%	6.80%
Tennessee	\$65,651,305	\$65,675,796	712,256	150%	84.37%	114,329	16.05%	12.81%	8.97%
Texas	\$161,003,678	\$161,043,680	2,587,809	150%	79.53%	149,352	5.77%	13.74%	8.63%
Utah	\$25,306,243	\$25,319,268	206,473	150%	70.82%	28,554	13.83%	8.98%	5.30%
Vermont	\$20,446,280	\$20,456,800	74,884	185%	69.48%	28,192	37.65%	14.02%	10.98%
Virginia	\$91,298,337	\$91,332,912	878,301	130%	76.02%	130,193	14.82%	12.72%	8.31%
Washington	\$57,898,703	\$57,933,684	722,328	125%	59.07%	67,423	9.33%	9.79%	6.66%
West Virginia	\$31,094,260	\$31,110,260	237,729	150%	62.94%	48,786	20.52%	13.02%	10.21%
Wisconsin	\$104,675,585	\$104,738,760	660,108	204%	76.14%	195,986	29.69%	9.46%	7.36%
Wyoming	\$9,937,496	\$9,942,610	60,502	196%	58.10%	8,132	13.44%	10.81%	7.30%

State-by-State Comparisons in Funding and Need

To analyze state allocations, HHS uses metrics that directly relate to LIHEAP's goal of assisting low income households with meeting home energy needs. These metrics also provide an apples-to-apples comparison that accounts for state differences in program designs and the state level need for LIHEAP assistance.

Table 13 below provides state level information on home energy bills for all low income households, i.e., federally income-eligible households, not just those households actually served by LIHEAP. The table also presents projections of potential program impacts based on the FY 2019 funding allocations. This table includes the following metrics to understand how state funding allocations could impact LIHEAP outcomes on energy bills and energy burden for low income households:

- *Gross Block Grant Allocation to State* – This is the amount of funds allocated to each state in FY 2019, including funds for the state grantee and funds for the direct-funded tribal grantees in the state. Funds for tribal grantees are included because the other figures in the table represent average amounts for households in the state, including households located on tribal lands or territories.
- *Average Home Energy Bill for Low Income Households* – This is the estimated mean (average) energy expenditure amount for heating and cooling usage for low income households. This excludes estimated energy expenditures for non-heating and non-cooling usage, such as energy used for appliances and lighting. This is calculated by dividing the total home energy expenditures for each state by the number of federally income-eligible households.
- *Average Home Energy Burden for Low Income Households* – This is the estimated mean (average) energy burden amount for heating and cooling usage for low income households. Home energy burden represents the share of annual income needed for annual heating and cooling energy expenditures. This differs from the prior table because it focuses on home energy burden only and it estimates burden for the entire low-income population rather than LIHEAP recipients. These data were calculated by dividing the average home energy bill by the average annual household income for federally income-eligible households.
- *Funding Allocated per Low Income Household* – This is the amount in federal LIHEAP block grant funding allocated to each state per low income household, based on the number of federally income-eligible households. We calculated these data by dividing the gross block grant allocation for each state by the number of low income households.
- *Average Share of Bill Paid if All Low Income Households Were Assisted* – This is the share of the state's average home energy bill for low income households that could have been paid if all low income households in the state had received LIHEAP bill payment assistance with funding distributed to the state. We calculated these data by dividing the

funding allocated per low income household by the average home energy bill for low income households.

As shown in Table 13 below, low income home energy needs vary considerably by state. In FY 2019, the average annual low income home energy *bills* ranged from \$296 to \$1,493, and the average annual home energy *burden* ranged from 1.28 percent of income to 6.78 percent of income.⁴³ When examining the gross funding allocations, states received between \$45 and \$309 per low income household. Additional tables with these metrics for FY 2008 through FY 2018 are provided in Appendix 4.

Table 13: State FY 2019 Home Energy Bills for All Low Income Households and Share of Bill Paid if All Low Income Households Were Assisted

State	Gross Block Grant Allocation to State	Average Home Energy Bill of Low Income Households ⁴⁴	Average Home Energy Burden for Low Income Households ⁴⁵	Funding Allocated per Low Income Household ⁴⁶	Average Share of Bill Paid if All Low Income Households Were Assisted ⁴⁷
Alabama	\$54,194,918	\$662	4.06%	\$94	14.23%
Alaska	\$18,846,959	\$1,493	5.83%	\$290	19.42%
Arizona	\$29,578,632	\$536	3.00%	\$46	8.65%
Arkansas	\$30,550,546	\$613	3.83%	\$94	15.25%
California	\$205,096,658	\$378	1.72%	\$58	15.45%
Colorado	\$53,793,334	\$571	2.48%	\$96	16.88%
Connecticut	\$75,290,878	\$1,081	4.07%	\$177	16.42%
Delaware	\$12,954,982	\$836	3.78%	\$128	15.25%
District of Columbia	\$11,189,028	\$546	2.98%	\$143	26.18%
Florida	\$96,776,424	\$490	2.84%	\$49	9.99%
Georgia	\$76,516,601	\$722	4.03%	\$75	10.43%
Hawaii	\$5,010,952	\$296	1.28%	\$45	15.28%
Idaho	\$21,542,658	\$536	3.06%	\$144	26.87%
Illinois	\$172,194,747	\$675	3.17%	\$120	17.82%
Indiana	\$76,976,528	\$574	3.07%	\$112	19.45%
Iowa	\$54,554,297	\$636	3.10%	\$160	25.19%
Kansas	\$36,513,752	\$758	3.72%	\$119	15.64%

⁴³ “Home energy” refers to heating and cooling. The average annual low income home energy bill represents the average annual home heating and cooling expenditures for low income households, estimated from the sources used to develop the 1984 allotment percentages. The average annual home energy burden represents the share of income paid, on average, for home heating and cooling expenditures by low income households.

⁴⁴ Data for total home energy expenditures is developed from the sources detailed in this report.

⁴⁵ Data for the average annual household income is based on data from the 2014-2018 ACS, adjusted to FY 2019 dollars. Percentages are based on non-rounded dollar amounts for each calculation factor rather than rounded dollar amounts shown in table.

⁴⁶ These data were calculated by dividing the gross block grant allocation to states by the number of income-eligible households from the 2014-2018 ACS.

⁴⁷ Percentages are based on non-rounded dollar amounts for each calculation factor rather than rounded dollar amounts shown in table.

State	Gross Block Grant Allocation to State	Average Home Energy Bill of Low Income Households ⁴⁴	Average Home Energy Burden for Low Income Households ⁴⁵	Funding Allocated per Low Income Household ⁴⁶	Average Share of Bill Paid if All Low Income Households Were Assisted ⁴⁷
Kentucky	\$54,725,461	\$629	3.66%	\$100	15.97%
Louisiana	\$50,898,734	\$589	3.42%	\$85	14.47%
Maine	\$39,793,122	\$1,288	6.78%	\$247	19.20%
Maryland	\$78,970,511	\$841	3.01%	\$126	15.03%
Massachusetts	\$136,483,517	\$969	3.84%	\$165	17.08%
Michigan	\$166,348,572	\$818	4.20%	\$145	17.67%
Minnesota	\$116,287,653	\$677	2.78%	\$191	28.30%
Mississippi	\$32,271,091	\$606	4.06%	\$94	15.52%
Missouri	\$80,216,571	\$712	3.78%	\$119	16.66%
Montana	\$25,268,170	\$655	3.67%	\$218	33.34%
Nebraska	\$31,645,024	\$555	2.63%	\$157	28.36%
Nevada	\$13,892,204	\$626	3.44%	\$54	8.63%
New Hampshire	\$27,278,597	\$1,128	4.39%	\$190	16.83%
New Jersey	\$124,026,908	\$715	2.62%	\$123	17.24%
New Mexico	\$21,002,821	\$592	3.89%	\$94	15.93%
New York	\$372,438,199	\$829	3.93%	\$163	19.69%
North Carolina	\$98,541,975	\$609	3.44%	\$90	14.83%
North Dakota	\$27,448,877	\$603	2.78%	\$309	51.21%
Ohio	\$154,948,345	\$633	3.30%	\$112	17.67%
Oklahoma	\$43,405,049	\$738	4.28%	\$108	14.64%
Oregon	\$36,492,988	\$463	2.47%	\$90	19.54%
Pennsylvania	\$206,487,864	\$767	3.67%	\$135	17.66%
Rhode Island	\$23,722,645	\$1,051	4.91%	\$179	17.06%
South Carolina	\$45,497,728	\$622	3.75%	\$88	14.09%
South Dakota	\$22,293,295	\$584	3.05%	\$249	42.53%
Tennessee	\$65,651,305	\$607	3.57%	\$92	15.18%
Texas	\$161,003,678	\$670	3.44%	\$62	9.28%
Utah	\$25,664,652	\$631	2.81%	\$124	19.71%
Vermont	\$20,446,280	\$1,365	6.41%	\$273	20.00%
Virginia	\$91,298,337	\$682	2.87%	\$104	15.24%
Washington	\$60,083,420	\$464	2.04%	\$83	17.92%
West Virginia	\$31,094,260	\$739	4.42%	\$131	17.70%
Wisconsin	\$104,675,585	\$668	3.10%	\$159	23.73%
Wyoming	\$10,275,562	\$709	3.40%	\$170	23.95%