

Report to Congress

Low Income Home Energy Assistance Program (LIHEAP)

Reducing the Volatility in Annual State LIHEAP

Allocations as a Result of the Statutory Formula



U.S. DEPARTMENT OF
HEALTH AND HUMAN SERVICES
Administration for Children and Families
Office of Community Services
Division of Energy Assistance

ADMINISTRATION FOR
CHILDREN & FAMILIES

The Administration for Children and Families (ACF) submits this report to the House of Representatives, Committee on Appropriations in response to the following language included in House Committee Report 116–450:

The Committee directs the program to submit a report within 180 days of enactment of this Act on recommendations for reducing the volatility in annual State allocations as a result of the statutory formula. The report should identify the method by which each State’s share of the new formula was based for FY 2016–FY 2020, as well as show each State’s share of low income home energy expenditures and each State’s share of the total funding for that year. The report should identify what drove major changes for each State for each of these fiscal years. This analysis should also include a chart showing hypothetical total funding amounts that would trigger a State’s new formula share to be based on its new formula percentage. As part of the report, the program should include a chart of revised State allocations for the past five years with the formula recalculated to take into account a changing (moving) prior three-year average of low income home energy expenditures, e.g. for FY 2016 it would be based on FY 2012, 2013, 2014 data, compared to a three-year average that is updated every third year. In addition, the report should include the extent to which it is feasible to project State allocations no less than six months prior to a new fiscal year, including whether it is possible to use energy cost projections, instead of currently used energy price data. While the Committee understands the complexity of the LIHEAP statutory framework as it exists today, it would be preferable to add predictability to the LIHEAP formulation process and annual State allocations.

This report builds on information presented in a [separate report from November 2020](#) and [its appendix](#) which ACF submitted to the House of Representatives, Committee on Appropriations in response to the following language included in the Explanatory Statement, which accompanied the Further Consolidated Appropriations Act, 2020 (Public Law 116-94).

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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SECTION I: OPTIONS FOR REDUCING VOLATILITY IN ANNUAL STATE ALLOCATIONS

ACF is continuing to research this and will provide an update to this report once it has concluded its analysis of options for modifying the funding formula to reduce volatility in state funding allocations from year-to-year.

SECTION II: THE METHOD BY WHICH EACH STATE'S SHARE OF THE 1984-FORMULA WAS BASED FOR FY 2016–FY 2020

ACF explored the interplay of the statutory methods through which each state received its 1984-Formula funding share for each appropriation from fiscal year (FY) 2016 through FY 2020 (see 42 U.S.C. § 8623(a)(2)-(4)). These methods consisted of the following:

1. *1984-Formula Percentage*, which (1) comprises the state's 1984-Formula percentage multiplied by the amount of the appropriation (actual or hypothetical) that's available to all states; and (2) serves as the basis of the 1984-Formula's allocation when it exceeds both the Hold Harmless Level and the Hold Harmless Rate and doesn't get ratably reduced. Required by the statute at 42 U.S.C. § 8623(a)(4).;
2. *Hold Harmless Level*, which (1) comprises the state's 1981-Formula percentage multiplied by the amount of the \$1.975 billion appropriation that would have been available to all states; and (2) serves as the basis of the 1984-Formula's allocation when it exceeds the second Hold Harmless Level and 1984-Formula Percentage amount. Required by the statute at 42 U.S.C. § 8623(a)(2)(A)(ii).;
3. *Hold Harmless Rate*, which (1) comprises the amount of the appropriation (actual or hypothetical) that is available to all states multiplied by the state's share of all states' allocations under a \$2.14 billion appropriation or, if greater, a \$2.25 billion appropriation; and (2) serves as the basis of the 1984-Formula's allocation when it exceeds the Hold Harmless Level and 1984-Formula Percentage. Required by the statute at 42 U.S.C. § 8623(a)(2)(B).; and
4. *Ceiling*, which (1) comprises the Hold Harmless Level times a "Ceiling Ratio"; and (2) serves as the basis of the 1984-Formula's allocation when it exceeds the Hold Harmless Level and exceeds the Hold Harmless Rate and falls short of 1984-Formula Percentage. The Ceiling involves ratably reducing some states in order to implement the Hold Harmless Level and Hold Harmless Rate protections. It's required by the statute at 42 U.S.C. § 8623(a)(3).

The Ceiling Ratio ratably reduces the states that are not held harmless to fund those that are held harmless. The ratio is applied iteratively until all of the funds that are available to all states (except for rounding differences) get distributed to all states in accordance with the Hold Harmless provisions.

Overall, there appears to be an inverse relationship across these five years regarding the amount of funding appropriated for the 1984-Formula by Congress each year and the number of states that receive no share of the 1984-Formula for that year, as shown in Table 1. Meaning, the more funding that is appropriated through the 1984-Formula, the fewer the number of states that receive \$0 from the 1984-Formula. Put another way, when there is a hybrid formula, the higher the funding amount that goes through the 1984-Formula, the greater the number of states that receive a share of the 1984-Formula appropriation.

Table 1 : States that Received a \$0 Share of 1984-Formula in FY 2016 - FY 2020

LIHEAP Block Grant	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Total Appropriation	\$3,390,304,000	\$3,390,304,000	\$3,640,304,000	\$3,690,304,000	\$4,640,304,000
Amount through 1984-Formula	\$491,000,000	\$491,000,000	\$678,500,000	\$716,000,000	\$1,428,000,000
Number of states receiving \$0 under the 1984-Formula	11	11	9	7	5
States that received \$0 under the 1984-Formula	Illinois Indiana Iowa Maine Michigan Minnesota New York Ohio Oregon Washington Wisconsin	Illinois Indiana Iowa Maine Michigan Minnesota New York Ohio Oregon Washington Wisconsin	Illinois Indiana Iowa Michigan Minnesota New York Oregon Washington Wisconsin	Indiana Iowa Maine Minnesota New York Oregon Wisconsin	Iowa Maine Minnesota New York Wisconsin

Table 2 through Table 6 show each state’s 1984-Formula amount, excluding amounts distributed because of reallocated funds from the prior year. Amounts that are less than \$0 arose from rounding adjustments. The tables show for each state which method controlled that state’s calculation under the 1984-Formula portion of that year’s funding formula and distinguishes those dispositive output methods based on the method that must be applied to the hybrid formulas of those years¹. The results of the hybrid formula appear in the three rightmost columns: (1) the Total 1984-Formula Method column shows the method that is produced by the amount appropriated by Congress *plus* \$1.975 billion—meaning the amount ACF had to add to the amount Congress appropriated under the hybrid formula in order to execute the 1984-Formula; (2) the 1984-Formula Base Method column shows the method that is produced by exactly \$1.975 billion; and (3) the last column shows each state’s dollar share of the 1984-Formula funding amount. The amount in the last column comes from the Total 1984-Formula Method minus the amount from the 1984-Formula Base Method, which is the deduction process ACF takes when Congress appropriates a hybrid formula but appropriates less than \$1.975 billion for the 1984-Formula. We can see in Table 2 for FY 2016, for instance, that 30 states had different methods apply because of the \$1.975 billion deduction process created by a 1984-Formula amount that fell below \$1.975 billion.

Table 2 : 1984-Formula Method for FY 2016 Regular Block Grant Appropriations

FY 2016	Total 1984-Formula Method	1984-Formula Base Method	Total 1984-Formula Amount
Alabama	Ceiling	Ceiling	\$18,932,637
Alaska	Hold Harmless Rate	Hold Harmless Level	\$1,781,815
Arizona	Ceiling	Ceiling	\$9,156,049
Arkansas	1984-Formula Percentage	Ceiling	\$9,072,814
California	1984-Formula Percentage	Ceiling	\$45,097,305
Colorado	1984-Formula Percentage	Hold Harmless Level	\$2,953,337
Connecticut	1984-Formula Percentage	Ceiling	\$20,617,410
Delaware	1984-Formula Percentage	Ceiling	\$4,600,366
District of Columbia	Hold Harmless Rate	Hold Harmless Level	\$1,057,825
Florida	Ceiling	Ceiling	\$29,957,085
Georgia	Ceiling	Ceiling	\$23,685,669
Hawaii	Ceiling	Ceiling	\$2,385,278
Idaho	Hold Harmless Rate	Hold Harmless Level	\$2,036,670
Illinois	Hold Harmless Level	Hold Harmless Level	\$0
Indiana	Hold Harmless Level	Hold Harmless Level	\$0
Iowa	Hold Harmless Level	Hold Harmless Level	\$0
Kansas	1984-Formula Percentage	Ceiling	\$7,418,136
Kentucky	1984-Formula Percentage	Ceiling	\$7,535,882

¹ The hybrid formula for those years requires two methods because Congress appropriated less than \$1,975,000,000 through the 1984-Formula for those years. Because of the way in which the Hold Harmless provisions are calculated ACF cannot run the 1984-Formula’s Hold Harmless provisions correctly under a topline amount below \$1,975,000,000.

FY 2016	Total 1984-Formula Method	1984-Formula Base Method	Total 1984-Formula Amount
Louisiana	1984-Formula Percentage	Ceiling	\$17,065,170
Maine	Hold Harmless Level	Hold Harmless Level	\$0
Maryland	1984-Formula Percentage	Ceiling	\$26,257,898
Massachusetts	1984-Formula Percentage	Ceiling	\$28,602,904
Michigan	Hold Harmless Level	Hold Harmless Level	\$0
Minnesota	Hold Harmless Level	Hold Harmless Level	\$0
Mississippi	1984-Formula Percentage	Ceiling	\$7,944,648
Missouri	1984-Formula Percentage	Hold Harmless Level	\$6,879,947
Montana	Hold Harmless Rate	Hold Harmless Level	\$2,388,884
Nebraska	Hold Harmless Rate	Hold Harmless Level	\$2,991,760
Nevada	Ceiling	Ceiling	\$4,300,324
New Hampshire	1984-Formula Percentage	Hold Harmless Level	\$3,654,196
New Jersey	1984-Formula Percentage	Hold Harmless Level	\$15,539,829
New Mexico	1984-Formula Percentage	Ceiling	\$3,861,118
New York	Hold Harmless Level	Hold Harmless Level	-\$3
North Carolina	1984-Formula Percentage	Ceiling	\$32,419,306
North Dakota	Hold Harmless Rate	Hold Harmless Level	\$2,595,051
Ohio	Hold Harmless Level	Hold Harmless Level	\$0
Oklahoma	1984-Formula Percentage	Ceiling	\$14,214,738
Oregon	Hold Harmless Level	Hold Harmless Level	\$0
Pennsylvania	1984-Formula Percentage	Hold Harmless Level	\$7,753,551
Rhode Island	1984-Formula Percentage	Ceiling	\$6,221,827
South Carolina	Ceiling	Ceiling	\$15,036,372
South Dakota	Hold Harmless Rate	Hold Harmless Level	\$2,107,636
Tennessee	1984-Formula Percentage	Ceiling	\$16,415,340
Texas	Ceiling	Ceiling	\$49,838,595
Utah	Hold Harmless Rate	Hold Harmless Level	\$2,426,368
Vermont	Hold Harmless Rate	Hold Harmless Level	\$1,933,017
Virginia	1984-Formula Percentage	Ceiling	\$27,897,092
Washington	Hold Harmless Level	Hold Harmless Level	\$0
West Virginia	Hold Harmless Rate	Hold Harmless Level	\$2,939,690
Wisconsin	Hold Harmless Level	Hold Harmless Level	\$0
Wyoming	Hold Harmless Rate	Hold Harmless Level	\$971,464
Territories			\$2,455,000
Total			\$491,000,000

Table 3 : 1984-Formula Method for FY 2017 Regular Block Grant Appropriations

FY 2017	Total 1984-Formula Method	1984-Formula Base Method	Total 1984-Formula Amount
Alabama	Ceiling	Ceiling	\$20,156,205
Alaska	Hold Harmless Rate	Hold Harmless Level	\$1,666,913
Arizona	Ceiling	Ceiling	\$9,747,781
Arkansas	1984-Formula Percentage	Ceiling	\$7,906,688
California	1984-Formula Percentage	Ceiling	\$38,379,338
Colorado	1984-Formula Percentage	Hold Harmless Level	\$4,680,337
Connecticut	1984-Formula Percentage	Ceiling	\$18,234,074
Delaware	1984-Formula Percentage	Ceiling	\$4,008,415
District of Columbia	Hold Harmless Rate	Hold Harmless Level	\$989,610
Florida	Ceiling	Ceiling	\$31,893,136
Georgia	Ceiling	Ceiling	\$25,216,415
Hawaii	1984-Formula Percentage	Ceiling	\$2,020,836
Idaho	Hold Harmless Rate	Hold Harmless Level	\$1,905,333
Illinois	Hold Harmless Level	Hold Harmless Level	\$0
Indiana	Hold Harmless Level	Hold Harmless Level	\$0
Iowa	Hold Harmless Level	Hold Harmless Level	\$0
Kansas	1984-Formula Percentage	Ceiling	\$8,937,645
Kentucky	1984-Formula Percentage	Ceiling	\$9,192,073
Louisiana	1984-Formula Percentage	Ceiling	\$17,123,124
Maine	Hold Harmless Level	Hold Harmless Level	\$0
Maryland	1984-Formula Percentage	Ceiling	\$27,743,160
Massachusetts	1984-Formula Percentage	Ceiling	\$26,263,751
Michigan	Hold Harmless Level	Hold Harmless Level	\$0
Minnesota	Hold Harmless Level	Hold Harmless Level	\$0
Mississippi	1984-Formula Percentage	Ceiling	\$8,496,809
Missouri	1984-Formula Percentage	Hold Harmless Level	\$6,753,775
Montana	Hold Harmless Rate	Hold Harmless Level	\$2,234,835
Nebraska	Hold Harmless Rate	Hold Harmless Level	\$2,798,833
Nevada	Ceiling	Ceiling	\$4,578,243
New Hampshire	Hold Harmless Rate	Ceiling	\$5,647,778
New Jersey	1984-Formula Percentage	Hold Harmless Level	\$7,832,427
New Mexico	1984-Formula Percentage	Ceiling	\$3,594,323
New York	Hold Harmless Level	Hold Harmless Level	-\$1
North Carolina	1984-Formula Percentage	Ceiling	\$31,197,959
North Dakota	Hold Harmless Rate	Hold Harmless Level	\$2,427,706
Ohio	Hold Harmless Level	Hold Harmless Level	\$0
Oklahoma	1984-Formula Percentage	Ceiling	\$14,715,675
Oregon	Hold Harmless Level	Hold Harmless Level	\$0
Pennsylvania	1984-Formula Percentage	Hold Harmless Level	\$12,130,680
Rhode Island	1984-Formula Percentage	Ceiling	\$5,419,618
South Carolina	Ceiling	Ceiling	\$16,008,136

FY 2017	Total 1984-Formula Method	1984-Formula Base Method	Total 1984-Formula Amount
South Dakota	Hold Harmless Rate	Hold Harmless Level	\$1,971,723
Tennessee	1984-Formula Percentage	Ceiling	\$18,711,925
Texas	Ceiling	Ceiling	\$53,059,537
Utah	Hold Harmless Rate	Hold Harmless Level	\$2,269,901
Vermont	Hold Harmless Rate	Hold Harmless Level	\$1,808,364
Virginia	1984-Formula Percentage	Ceiling	\$27,162,980
Washington	Hold Harmless Level	Hold Harmless Level	\$0
West Virginia	Hold Harmless Rate	Hold Harmless Level	\$2,750,121
Wisconsin	Hold Harmless Level	Hold Harmless Level	\$0
Wyoming	Hold Harmless Rate	Hold Harmless Level	\$908,819
Territories			\$2,455,000
Total			\$491,000,000

Table 4 : 1984-Formula Method for FY 2018 Regular Block Grant Appropriations

FY 2018	Total 1984-Formula Method	1984-Formula Base Method	Total 1984-Formula Amount
Alabama	1984-Formula Percentage	Ceiling	\$26,233,982
Alaska	Hold Harmless Rate	Hold Harmless Level	\$2,616,936
Arizona	Ceiling	Ceiling	\$15,726,937
Arkansas	1984-Formula Percentage	Ceiling	\$11,813,802
California	1984-Formula Percentage	Ceiling	\$56,020,653
Colorado	1984-Formula Percentage	Hold Harmless Level	\$5,813,605
Connecticut	1984-Formula Percentage	Ceiling	\$18,954,169
Delaware	1984-Formula Percentage	Ceiling	\$5,452,796
District of Columbia	Hold Harmless Rate	Hold Harmless Level	\$1,553,618
Florida	Ceiling	Ceiling	\$51,455,950
Georgia	Ceiling	Ceiling	\$40,683,819
Hawaii	1984-Formula Percentage	Ceiling	\$1,814,478
Idaho	Hold Harmless Rate	Hold Harmless Level	\$2,991,239
Illinois	Hold Harmless Level	Hold Harmless Level	\$0
Indiana	Hold Harmless Level	Hold Harmless Level	\$0
Iowa	Hold Harmless Level	Hold Harmless Level	\$0
Kansas	1984-Formula Percentage	Ceiling	\$11,016,270
Kentucky	1984-Formula Percentage	Ceiling	\$13,278,622
Louisiana	1984-Formula Percentage	Ceiling	\$22,234,295
Maine	1984-Formula Percentage	Hold Harmless Level	\$238,386
Maryland	1984-Formula Percentage	Ceiling	\$34,372,436
Massachusetts	1984-Formula Percentage	Hold Harmless Level	\$24,134,324
Michigan	Hold Harmless Level	Hold Harmless Level	\$0
Minnesota	Hold Harmless Level	Hold Harmless Level	\$0
Mississippi	1984-Formula Percentage	Ceiling	\$10,886,183
Missouri	1984-Formula Percentage	Hold Harmless Level	\$12,745,177
Montana	Hold Harmless Rate	Hold Harmless Level	\$3,508,533
Nebraska	Hold Harmless Rate	Hold Harmless Level	\$4,393,971
Nevada	Ceiling	Ceiling	\$7,386,475
New Hampshire	Hold Harmless Rate	Hold Harmless Level	\$4,601,586
New Jersey	1984-Formula Percentage	Hold Harmless Level	\$12,677,230
New Mexico	1984-Formula Percentage	Ceiling	\$4,448,006
New York	Hold Harmless Level	Hold Harmless Level	\$0
North Carolina	1984-Formula Percentage	Ceiling	\$41,616,994
North Dakota	Hold Harmless Rate	Hold Harmless Level	\$3,811,328
Ohio	1984-Formula Percentage	Hold Harmless Level	\$2,768,795
Oklahoma	1984-Formula Percentage	Ceiling	\$18,611,792
Oregon	Hold Harmless Level	Hold Harmless Level	\$0
Pennsylvania	1984-Formula Percentage	Hold Harmless Level	\$13,553,997
Rhode Island	1984-Formula Percentage	Ceiling	\$6,560,506
South Carolina	1984-Formula Percentage	Ceiling	\$22,997,956

FY 2018	Total 1984-Formula Method	1984-Formula Base Method	Total 1984-Formula Amount
South Dakota	Hold Harmless Rate	Hold Harmless Level	\$3,095,466
Tennessee	1984-Formula Percentage	Ceiling	\$23,156,021
Texas	Ceiling	Ceiling	\$85,605,533
Utah	Hold Harmless Rate	Hold Harmless Level	\$3,563,585
Vermont	Hold Harmless Rate	Hold Harmless Level	\$2,839,005
Virginia	1984-Formula Percentage	Ceiling	\$34,128,766
Washington	Hold Harmless Level	Hold Harmless Level	\$0
West Virginia	Hold Harmless Rate	Hold Harmless Level	\$4,317,497
Wisconsin	Hold Harmless Level	Hold Harmless Level	\$0
Wyoming	Hold Harmless Rate	Hold Harmless Level	\$1,426,781
Territories			\$3,392,500
Total			\$678,500,000

Table 5 : 1984-Formula Method for FY 2019 Regular Block Grant Appropriations

FY 2019	Total 1984-Formula Method	1984-Formula Base Method	Total 1984-Formula Amount
Alabama	1984-Formula Percentage	Ceiling	\$29,315,908
Alaska	Hold Harmless Rate	Hold Harmless Level	\$2,806,941
Arizona	Ceiling	Ceiling	\$17,580,909
Arkansas	1984-Formula Percentage	Ceiling	\$11,457,477
California	1984-Formula Percentage	Ceiling	\$70,762,221
Colorado	1984-Formula Percentage	Hold Harmless Level	\$6,775,992
Connecticut	1984-Formula Percentage	Hold Harmless Level	\$14,006,811
Delaware	1984-Formula Percentage	Ceiling	\$4,850,642
District of Columbia	Hold Harmless Rate	Hold Harmless Level	\$1,666,419
Florida	Ceiling	Ceiling	\$57,521,844
Georgia	Ceiling	Ceiling	\$45,479,838
Hawaii	1984-Formula Percentage	Ceiling	\$1,858,134
Idaho	Hold Harmless Rate	Hold Harmless Level	\$3,208,420
Illinois	1984-Formula Percentage	Hold Harmless Level	\$2,205,102
Indiana	Hold Harmless Level	Hold Harmless Level	\$0
Iowa	Hold Harmless Level	Hold Harmless Level	\$0
Kansas	1984-Formula Percentage	Ceiling	\$11,575,823
Kentucky	1984-Formula Percentage	Ceiling	\$14,815,410
Louisiana	1984-Formula Percentage	Ceiling	\$25,418,200
Maine	Hold Harmless Level	Hold Harmless Level	\$0
Maryland	1984-Formula Percentage	Ceiling	\$32,261,618
Massachusetts	1984-Formula Percentage	Hold Harmless Level	\$13,752,313
Michigan	1984-Formula Percentage	Hold Harmless Level	\$4,987,265
Minnesota	Hold Harmless Level	Hold Harmless Level	\$0
Mississippi	Hold Harmless Rate	Ceiling	\$10,797,727
Missouri	1984-Formula Percentage	Hold Harmless Level	\$12,431,672
Montana	Hold Harmless Rate	Hold Harmless Level	\$3,763,273
Nebraska	Hold Harmless Rate	Hold Harmless Level	\$4,712,999
Nevada	Ceiling	Ceiling	\$8,257,230
New Hampshire	Hold Harmless Rate	Hold Harmless Level	\$4,062,692
New Jersey	1984-Formula Percentage	Hold Harmless Level	\$10,063,014
New Mexico	1984-Formula Percentage	Ceiling	\$5,820,475
New York	Hold Harmless Level	Hold Harmless Level	\$0
North Carolina	1984-Formula Percentage	Ceiling	\$43,472,459
North Dakota	Hold Harmless Rate	Hold Harmless Level	\$4,088,053
Ohio	1984-Formula Percentage	Hold Harmless Level	\$4,593,546
Oklahoma	1984-Formula Percentage	Ceiling	\$20,471,316
Oregon	Hold Harmless Level	Hold Harmless Level	\$0
Pennsylvania	1984-Formula Percentage	Hold Harmless Level	\$6,498,645
Rhode Island	Hold Harmless Rate	Hold Harmless Level	\$3,533,093
South Carolina	1984-Formula Percentage	Ceiling	\$25,763,551

FY 2019	Total 1984-Formula Method	1984-Formula Base Method	Total 1984-Formula Amount
South Dakota	Hold Harmless Rate	Hold Harmless Level	\$3,320,215
Tennessee	1984-Formula Percentage	Ceiling	\$25,326,550
Texas	Ceiling	Ceiling	\$95,697,156
Utah	Hold Harmless Rate	Hold Harmless Level	\$3,822,322
Vermont	Hold Harmless Rate	Hold Harmless Level	\$3,045,133
Virginia	1984-Formula Percentage	Ceiling	\$34,352,181
Washington	1984-Formula Percentage	Hold Harmless Level	\$58,065
West Virginia	Hold Harmless Rate	Hold Harmless Level	\$4,630,972
Wisconsin	Hold Harmless Level	Hold Harmless Level	\$0
Wyoming	Hold Harmless Rate	Hold Harmless Level	\$1,530,374
Territories			\$3,580,000
Total			\$716,000,000

**Table 6 : 1984-Formula Method for FY20 Regular Block Grant and CARES Act
Appropriations**

FY 2020	Total 1984-Formula Method	1984-Formula Base Method	Total 1984-Formula Amount
Alabama	1984-Formula Percentage	Ceiling	\$50,599,091
Alaska	Hold Harmless Rate	Hold Harmless Level	\$6,414,495
Arizona	Ceiling	Ceiling	\$33,946,778
Arkansas	1984-Formula Percentage	Ceiling	\$20,359,039
California	1984-Formula Percentage	Ceiling	\$108,487,330
Colorado	1984-Formula Percentage	Ceiling	\$25,707,655
Connecticut	1984-Formula Percentage	Hold Harmless Level	\$20,086,781
Delaware	1984-Formula Percentage	Ceiling	\$7,732,319
District of Columbia	Hold Harmless Rate	Hold Harmless Level	\$3,808,145
Florida	Ceiling	Ceiling	\$111,068,277
Georgia	Ceiling	Ceiling	\$87,816,506
Hawaii	1984-Formula Percentage	Ceiling	\$2,673,893
Idaho	Hold Harmless Rate	Hold Harmless Level	\$7,331,966
Illinois	1984-Formula Percentage	Hold Harmless Level	\$30,255,311
Indiana	1984-Formula Percentage	Hold Harmless Level	\$11,035,458
Iowa	Hold Harmless Level	Hold Harmless Level	\$0
Kansas	1984-Formula Percentage	Ceiling	\$20,229,619
Kentucky	1984-Formula Percentage	Ceiling	\$26,620,450
Louisiana	1984-Formula Percentage	Ceiling	\$41,674,324
Maine	Hold Harmless Level	Hold Harmless Level	\$0
Maryland	1984-Formula Percentage	Ceiling	\$48,106,998
Massachusetts	1984-Formula Percentage	Hold Harmless Level	\$25,536,036
Michigan	1984-Formula Percentage	Hold Harmless Level	\$22,909,769
Minnesota	Hold Harmless Level	Hold Harmless Level	\$0
Mississippi	1984-Formula Percentage	Ceiling	\$22,362,913
Missouri	1984-Formula Percentage	Hold Harmless Level	\$29,407,541
Montana	Hold Harmless Rate	Hold Harmless Level	\$8,599,930
Nebraska	Hold Harmless Rate	Hold Harmless Level	\$10,770,269
Nevada	Ceiling	Ceiling	\$15,943,793
New Hampshire	Hold Harmless Rate	Hold Harmless Level	\$9,284,172
New Jersey	1984-Formula Percentage	Hold Harmless Level	\$26,513,166
New Mexico	1984-Formula Percentage	Ceiling	\$11,937,117
New York	Hold Harmless Level	Hold Harmless Level	\$0
North Carolina	1984-Formula Percentage	Ceiling	\$70,393,079
North Dakota	Hold Harmless Rate	Hold Harmless Level	\$9,342,126
Ohio	1984-Formula Percentage	Hold Harmless Level	\$30,212,613
Oklahoma	1984-Formula Percentage	Ceiling	\$37,244,032
Oregon	1984-Formula Percentage	Hold Harmless Level	\$8,800,691
Pennsylvania	1984-Formula Percentage	Hold Harmless Level	\$19,629,235
Rhode Island	Hold Harmless Rate	Hold Harmless Level	\$8,073,917

FY 2020	Total 1984-Formula Method	1984-Formula Base Method	Total 1984-Formula Amount
South Carolina	1984-Formula Percentage	Ceiling	\$45,484,659
South Dakota	Hold Harmless Rate	Hold Harmless Level	\$7,587,442
Tennessee	1984-Formula Percentage	Ceiling	\$46,213,579
Texas	Ceiling	Ceiling	\$184,780,558
Utah	Hold Harmless Rate	Hold Harmless Level	\$8,734,872
Vermont	Hold Harmless Rate	Hold Harmless Level	\$6,958,817
Virginia	1984-Formula Percentage	Ceiling	\$56,245,858
Washington	1984-Formula Percentage	Hold Harmless Level	\$19,859,311
West Virginia	Hold Harmless Rate	Hold Harmless Level	\$10,582,819
Wisconsin	Hold Harmless Level	Hold Harmless Level	\$0
Wyoming	Hold Harmless Rate	Hold Harmless Level	\$3,497,251
Territories			\$7,140,000
Total			\$1,428,000,000

SECTION III: EACH STATE'S 1984-FORMULA PERCENTAGE AND TOTAL FUNDING FOR FY 2016–FY 2020

Table 7 through Table 11 show each state's 1984-Formula allotment percentage, which represents the state's share of all states' estimated data on home heating and cooling expenditures by low income households. These tables also show each state's actual share of total LIHEAP funding for FY 2016 through FY 2020, not just the 1984-Formula funding sub-amount. The tables further display the actual percentage point difference of these two percentages, meaning how close each state's share of the total LIHEAP funding for all states matched or was represented by each state's 1984-Formula allotment percentage for that year. The last column in each of these tables presents this difference in another way—by showing by what percentage a state's percent of total funding fell short of what it would have otherwise been allocated if only its 1984-Formula percentage had determined a state's total funding for that year. In FY 2016, for example, 17 states had positive or negative differences in that hypothetical outcome that equaled or exceeded an absolute value of 25 percent.

The states that have the largest positive percent differences are held to their Hold Harmless Level or Hold Harmless rate amounts per the 1984-Formula requirements in the underlying LIHEAP statute—with most states held to their Hold Harmless rate amounts. Conversely, the states that have the largest negative percent differences are those that are ratably reduced to hold other states harmless or, to a lesser extent, receive their 1984-Formula allotment percentage amounts.

These tables show that, in all five years examined, there were some states that received no share of the 1984-Formula portion of the overall funding formula. This means those states' funding amounts had been capped entirely to their 1981-Formula allotment percentages, which are static percentages from 1981 which never get updated and exclude home energy cooling expenditure estimates for low income households. Notably, the number of states being excluded from a share of the 1984-Formula funding amount decreased from 11 states in FY 2016 and FY 2017 to only five states in FY 2020.

Table 7 : Share of Estimated Normal Year, Low Income Home Energy Expenditures and Actual Share of Total Funding, FY 2016

Grantee Name	1984-Formula Allotment Percentage (Share of Low Income Home Energy Expenditures (LIHEE))	Actual Share of Total Funding	Percentage Point Difference (Funding Share Minus LIHEE Share)	Percent Difference (% Pt. Diff. over LIHEE Share)
Alabama	1.5212%	1.2996%	-0.2216%	-14.57%
Alaska	0.4322%	0.5221%	0.0899%	20.80%
Arizona	1.4396%	0.6285%	-0.8111%	-56.34%
Arkansas	0.8912%	0.8313%	-0.0598%	-6.71%
California	5.5037%	5.2870%	-0.2167%	-3.94%
Colorado	1.4135%	1.4623%	0.0488%	3.45%

Grantee Name	1984-Formula Allotment Percentage (Share of Low Income Home Energy Expenditures (LIHEE))	Actual Share of Total Funding	Percentage Point Difference (Funding Share Minus LIHEE Share)	Percent Difference (% Pt. Diff. over LIHEE Share)
Connecticut	2.5077%	2.4079%	-0.0997%	-3.98%
Delaware	0.4088%	0.3752%	-0.0336%	-8.21%
District of Columbia	0.1887%	0.3100%	0.1213%	64.31%
Florida	3.9356%	2.0564%	-1.8792%	-47.75%
Georgia	2.9243%	1.6259%	-1.2984%	-44.40%
Hawaii	0.1965%	0.1637%	-0.0328%	-16.67%
Idaho	0.3868%	0.5968%	0.2100%	54.30%
Illinois	4.2445%	4.9618%	0.7173%	16.90%
Indiana	1.7919%	2.2466%	0.4547%	25.38%
Iowa	1.0539%	1.5922%	0.5383%	51.07%
Kansas	0.9824%	0.9526%	-0.0299%	-3.04%
Kentucky	1.3945%	1.3940%	-0.0005%	-0.04%
Louisiana	1.3941%	1.2603%	-0.1337%	-9.59%
Maine	1.0658%	1.1614%	0.0956%	8.97%
Maryland	2.3468%	2.1562%	-0.1906%	-8.12%
Massachusetts	4.5010%	4.4395%	-0.0615%	-1.37%
Michigan	4.3572%	4.7108%	0.3536%	8.11%
Minnesota	1.8689%	3.3939%	1.5250%	81.60%
Mississippi	0.9096%	0.8669%	-0.0427%	-4.69%
Missouri	2.1454%	2.1872%	0.0418%	1.95%
Montana	0.3584%	0.7000%	0.3416%	95.31%
Nebraska	0.5307%	0.8767%	0.3460%	65.20%
Nevada	0.7175%	0.2952%	-0.4223%	-58.86%
New Hampshire	0.7876%	0.7878%	0.0002%	0.02%
New Jersey	3.7660%	3.7927%	0.0268%	0.71%
New Mexico	0.5711%	0.5600%	-0.0111%	-1.94%
New York	9.4771%	10.8696%	1.3926%	14.69%
North Carolina	2.8280%	2.5874%	-0.2406%	-8.51%
North Dakota	0.2751%	0.7604%	0.4854%	176.46%
Ohio	3.8500%	4.3895%	0.5395%	14.01%
Oklahoma	1.2074%	1.0995%	-0.1079%	-8.94%
Oregon	0.8599%	1.0651%	0.2051%	23.85%
Pennsylvania	5.8102%	6.0700%	0.2598%	4.47%
Rhode Island	0.8026%	0.7759%	-0.0266%	-3.32%
South Carolina	1.3234%	1.0322%	-0.2913%	-22.01%
South Dakota	0.2565%	0.6176%	0.3611%	140.74%

Grantee Name	1984-Formula Allotment Percentage (Share of Low Income Home Energy Expenditures (LIHEE))	Actual Share of Total Funding	Percentage Point Difference (Funding Share Minus LIHEE Share)	Percent Difference (% Pt. Diff. over LIHEE Share)
Tennessee	1.7705%	1.6741%	-0.0964%	-5.44%
Texas	6.8700%	3.4212%	-3.4488%	-50.20%
Utah	0.5264%	0.7110%	0.1846%	35.07%
Vermont	0.5026%	0.5664%	0.0638%	12.69%
Virginia	2.6921%	2.5045%	-0.1876%	-6.97%
Washington	1.4341%	1.7519%	0.3178%	22.16%
West Virginia	0.7075%	0.8614%	0.1540%	21.76%
Wisconsin	2.0998%	3.0550%	0.9552%	45.49%
Wyoming	0.1695%	0.2847%	0.1152%	67.95%
Total	100.0000%	100.0000%	0.0000%	0.00%

Table 8 : Share of Estimated Normal Year, Low Income Home Energy Expenditures and Actual Share of Total Funding, FY 2017

Grantee Name	1984-Formula Allotment Percentage (Share of Low Income Home Energy Expenditures (LIHEE))	Actual Share of Total Funding	Percentage Point Difference (Funding Share Minus LIHEE Share)	Percent Difference (% Pt. Diff. over LIHEE Share)
Alabama	1.5090%	1.3334%	-0.1756%	-11.63%
Alaska	0.4299%	0.5189%	0.0890%	20.69%
Arizona	1.3141%	0.6449%	-0.6692%	-50.93%
Arkansas	0.8438%	0.7957%	-0.0481%	-5.70%
California	5.2310%	5.0838%	-0.1472%	-2.81%
Colorado	1.4839%	1.5144%	0.0305%	2.06%
Connecticut	2.4110%	2.3354%	-0.0756%	-3.13%
Delaware	0.3847%	0.3571%	-0.0276%	-7.18%
District of Columbia	0.2068%	0.3080%	0.1012%	48.96%
Florida	3.9436%	2.1099%	-1.8338%	-46.50%
Georgia	2.9107%	1.6682%	-1.2425%	-42.69%
Hawaii	0.1685%	0.1526%	-0.0159%	-9.42%
Idaho	0.3510%	0.5931%	0.2421%	68.96%
Illinois	4.4659%	4.9667%	0.5007%	11.21%
Indiana	1.7951%	2.2488%	0.4537%	25.27%
Iowa	1.1111%	1.5937%	0.4826%	43.43%
Kansas	1.0445%	0.9971%	-0.0475%	-4.54%
Kentucky	1.4623%	1.4430%	-0.0194%	-1.32%
Louisiana	1.3966%	1.2599%	-0.1368%	-9.79%
Maine	1.0622%	1.1625%	0.1003%	9.44%
Maryland	2.4077%	2.1971%	-0.2106%	-8.75%
Massachusetts	4.4067%	4.3687%	-0.0380%	-0.86%
Michigan	4.1476%	4.7154%	0.5678%	13.69%
Minnesota	2.0440%	3.3972%	1.3532%	66.21%
Mississippi	0.9323%	0.8826%	-0.0497%	-5.33%
Missouri	2.1403%	2.1843%	0.0440%	2.05%
Montana	0.3669%	0.6956%	0.3287%	89.59%
Nebraska	0.5490%	0.8712%	0.3222%	58.70%
Nevada	0.7128%	0.3029%	-0.4099%	-57.51%
New Hampshire	0.8617%	0.8470%	-0.0147%	-1.70%
New Jersey	3.4518%	3.5646%	0.1128%	3.27%
New Mexico	0.5603%	0.5519%	-0.0084%	-1.51%
New York	9.5719%	10.8803%	1.3085%	13.67%

Grantee Name	1984-Formula Allotment Percentage (Share of Low Income Home Energy Expenditures (LIHEE))	Actual Share of Total Funding	Percentage Point Difference (Funding Share Minus LIHEE Share)	Percent Difference (% Pt. Diff. over LIHEE Share)
North Carolina	2.7786%	2.5471%	-0.2315%	-8.33%
North Dakota	0.3173%	0.7557%	0.4383%	138.13%
Ohio	3.9324%	4.3938%	0.4614%	11.73%
Oklahoma	1.2280%	1.1126%	-0.1154%	-9.40%
Oregon	0.8174%	1.0661%	0.2487%	30.42%
Pennsylvania	5.9886%	6.2042%	0.2156%	3.60%
Rhode Island	0.7700%	0.7516%	-0.0184%	-2.39%
South Carolina	1.3071%	1.0590%	-0.2481%	-18.98%
South Dakota	0.2645%	0.6137%	0.3493%	132.08%
Tennessee	1.8644%	1.7406%	-0.1238%	-6.64%
Texas	6.9448%	3.5101%	-3.4347%	-49.46%
Utah	0.5090%	0.7066%	0.1975%	38.81%
Vermont	0.5258%	0.5629%	0.0371%	7.06%
Virginia	2.6626%	2.4796%	-0.1831%	-6.88%
Washington	1.3311%	1.7536%	0.4225%	31.74%
West Virginia	0.6796%	0.8560%	0.1764%	25.96%
Wisconsin	2.2193%	3.0580%	0.8386%	37.79%
Wyoming	0.1804%	0.2829%	0.1025%	56.81%
Total	100.00%	100.00%	0.0000%	0.00%

Table 9 : Share of Estimated Normal Year, Low Income Home Energy Expenditures and Actual Share of Total Funding, FY 2018

Grantee Name	Share of Low Income Home Energy Expenditure (LIHEE)s	Actual Share of Total Funding	Percentage Point Difference (Funding Share Minus LIHEE Share)	Percent Difference (% Pt. Diff. over LIHEE Share)
Alabama	1.6275%	1.4245%	-0.2030%	-12.47%
Alaska	0.4392%	0.5189%	0.0797%	18.15%
Arizona	1.4193%	0.7729%	-0.6464%	-45.54%
Arkansas	0.9311%	0.8603%	-0.0709%	-7.61%
California	5.5224%	5.3011%	-0.2213%	-4.01%
Colorado	1.4220%	1.4693%	0.0473%	3.33%
Connecticut	2.2647%	2.2309%	-0.0338%	-1.49%
Delaware	0.4118%	0.3773%	-0.0346%	-8.39%
District of Columbia	0.2590%	0.3081%	0.0491%	18.96%
Florida	4.2256%	2.5288%	-1.6968%	-40.16%
Georgia	3.1198%	1.9994%	-1.1204%	-35.91%
Hawaii	0.1486%	0.1383%	-0.0103%	-6.94%
Idaho	0.3435%	0.5931%	0.2496%	72.68%
Illinois	4.1282%	4.7251%	0.5969%	14.46%
Indiana	1.7900%	2.1394%	0.3494%	19.52%
Iowa	1.0031%	1.5162%	0.5131%	51.15%
Kansas	1.0481%	1.0007%	-0.0474%	-4.53%
Kentucky	1.5117%	1.4802%	-0.0314%	-2.08%
Louisiana	1.4902%	1.3296%	-0.1606%	-10.78%
Maine	1.0247%	1.1126%	0.0879%	8.58%
Maryland	2.4862%	2.2569%	-0.2293%	-9.22%
Massachusetts	4.0501%	4.0817%	0.0316%	0.78%
Michigan	4.0134%	4.4861%	0.4727%	11.78%
Minnesota	1.8875%	3.2320%	1.3445%	71.23%
Mississippi	0.9558%	0.9006%	-0.0552%	-5.77%
Missouri	2.2160%	2.2396%	0.0236%	1.06%
Montana	0.3513%	0.6957%	0.3444%	98.02%
Nebraska	0.5341%	0.8712%	0.3371%	63.11%
Nevada	0.7500%	0.3630%	-0.3870%	-51.60%
New Hampshire	0.7679%	0.7735%	0.0056%	0.74%
New Jersey	3.3914%	3.5205%	0.1290%	3.80%
New Mexico	0.5523%	0.5465%	-0.0058%	-1.05%
New York	9.1490%	10.3511%	1.2021%	13.14%
North Carolina	2.9740%	2.6925%	-0.2814%	-9.46%
North Dakota	0.2844%	0.7557%	0.4713%	165.75%

Grantee Name	Share of Low Income Home Energy Expenditure (LIHEE)s	Actual Share of Total Funding	Percentage Point Difference (Funding Share Minus LIHEE Share)	Percent Difference (% Pt. Diff. over LIHEE Share)
Ohio	3.9436%	4.2566%	0.3130%	7.94%
Oklahoma	1.2876%	1.1573%	-0.1303%	-10.12%
Oregon	0.8217%	1.0142%	0.1925%	23.43%
Pennsylvania	5.6194%	5.9346%	0.3152%	5.61%
Rhode Island	0.7578%	0.7434%	-0.0144%	-1.90%
South Carolina	1.3745%	1.1911%	-0.1834%	-13.34%
South Dakota	0.2514%	0.6138%	0.3623%	144.12%
Tennessee	1.8989%	1.7676%	-0.1313%	-6.91%
Texas	7.4870%	4.2070%	-3.2799%	-43.81%
Utah	0.5338%	0.7066%	0.1728%	32.37%
Vermont	0.4495%	0.5629%	0.1134%	25.24%
Virginia	2.7353%	2.5353%	-0.2000%	-7.31%
Washington	1.4219%	1.6683%	0.2464%	17.32%
West Virginia	0.7432%	0.8561%	0.1129%	15.19%
Wisconsin	2.0184%	2.9092%	0.8908%	44.13%
Wyoming	0.1624%	0.2829%	0.1205%	74.16%
Total	100.00%	100.00%	0.0000%	0.00%

Table 10 : Share of Estimated Normal Year, Low Income Home Energy Expenditures and Actual Share of Total Funding, FY 2019

Grantee Name	1984-Formula Allocation Percentage (Share of Low Income Home Energy Expenditures (LIHEE))	Actual Share of Total Funding	Percentage Point Difference (Funding Share Minus LIHEE Share)	Percent Difference (% Pt. Diff. over LIHEE Share)
Alabama	1.7190%	1.4921%	-0.2269%	-13.20%
Alaska	0.4381%	0.5189%	0.0808%	18.43%
Arizona	1.5427%	0.8144%	-0.7283%	-47.21%
Arkansas	0.9041%	0.8411%	-0.0630%	-6.97%
California	5.9909%	5.6467%	-0.3442%	-5.74%
Colorado	1.4381%	1.4810%	0.0430%	2.99%
Connecticut	2.0690%	2.0729%	0.0039%	0.19%
Delaware	0.3833%	0.3567%	-0.0266%	-6.94%
District of Columbia	0.1929%	0.3081%	0.1151%	59.68%
Florida	4.3716%	2.6644%	-1.7071%	-39.05%
Georgia	3.3116%	2.1066%	-1.2049%	-36.39%
Hawaii	0.1480%	0.1380%	-0.0101%	-6.80%
Idaho	0.3618%	0.5931%	0.2313%	63.94%
Illinois	4.3611%	4.7408%	0.3797%	8.71%
Indiana	1.7865%	2.1193%	0.3328%	18.63%
Iowa	0.9775%	1.5020%	0.5245%	53.65%
Kansas	1.0535%	1.0053%	-0.0482%	-4.57%
Kentucky	1.5465%	1.5067%	-0.0398%	-2.57%
Louisiana	1.5873%	1.4013%	-0.1860%	-11.72%
Maine	0.9356%	1.0956%	0.1600%	17.10%
Maryland	2.3709%	2.1742%	-0.1967%	-8.30%
Massachusetts	3.6059%	3.7576%	0.1517%	4.21%
Michigan	4.2486%	4.5799%	0.3313%	7.80%
Minnesota	1.8548%	3.2016%	1.3468%	72.61%
Mississippi	0.9383%	0.8885%	-0.0498%	-5.31%
Missouri	2.1734%	2.2085%	0.0351%	1.62%
Montana	0.3421%	0.6957%	0.3536%	103.38%
Nebraska	0.5036%	0.8712%	0.3677%	73.02%
Nevada	0.7263%	0.3825%	-0.3438%	-47.34%
New Hampshire	0.7314%	0.7510%	0.0197%	2.69%
New Jersey	3.2465%	3.4147%	0.1681%	5.18%
New Mexico	0.5952%	0.5782%	-0.0170%	-2.85%
New York	8.5391%	10.2539%	1.7148%	20.08%

Grantee Name	1984-Formula Allocation Percentage (Share of Low Income Home Energy Expenditures (LIHEE))	Actual Share of Total Funding	Percentage Point Difference (Funding Share Minus LIHEE Share)	Percent Difference (% Pt. Diff. over LIHEE Share)
North Carolina	2.9997%	2.7130%	-0.2867%	-9.56%
North Dakota	0.2419%	0.7557%	0.5138%	212.39%
Ohio	3.9568%	4.2660%	0.3093%	7.82%
Oklahoma	1.3382%	1.1950%	-0.1432%	-10.70%
Oregon	0.8430%	1.0047%	0.1617%	19.18%
Pennsylvania	5.2776%	5.6850%	0.4074%	7.72%
Rhode Island	0.6276%	0.6531%	0.0255%	4.07%
South Carolina	1.4579%	1.2526%	-0.2052%	-14.08%
South Dakota	0.2366%	0.6138%	0.3772%	159.42%
Tennessee	1.9519%	1.8075%	-0.1444%	-7.40%
Texas	7.8311%	4.4327%	-3.3983%	-43.40%
Utah	0.5876%	0.7066%	0.1190%	20.25%
Vermont	0.4615%	0.5629%	0.1014%	21.98%
Virginia	2.7033%	2.5136%	-0.1897%	-7.02%
Washington	1.5129%	1.6542%	0.1413%	9.34%
West Virginia	0.7930%	0.8561%	0.0631%	7.96%
Wisconsin	1.9909%	2.8819%	0.8911%	44.76%
Wyoming	0.1937%	0.2829%	0.0892%	46.07%
Total	100.00%	100.00%	0.0000%	0.00%

Table 11 : Share of Estimated Normal Year, Low Income Home Energy Expenditures and Actual Share of Total Funding, FY 2020

Grantee Name	1984-Formula Allotment Percentage (Share of Low Income Home Energy Expenditures (LIHEE))	Actual Share of Total Funding	Percentage Point Difference (Funding Share Minus LIHEE Share)	Percent Difference (% Pt. Diff. over LIHEE Share)
Alabama	1.9883%	1.6918%	-0.2965%	-14.91%
Alaska	0.3895%	0.5190%	0.1294%	33.23%
Arizona	1.5381%	1.0236%	-0.5146%	-33.45%
Arkansas	0.9782%	0.8954%	-0.0828%	-8.46%
California	5.8540%	5.5443%	-0.3097%	-5.29%
Colorado	1.6832%	1.6705%	-0.0127%	-0.76%
Connecticut	1.8157%	1.8877%	0.0720%	3.97%
Delaware	0.3884%	0.3604%	-0.0280%	-7.21%
District of Columbia	0.2345%	0.3081%	0.0736%	31.37%
Florida	4.5740%	3.3489%	-1.2251%	-26.78%
Georgia	3.7587%	2.6478%	-1.1108%	-29.55%
Hawaii	0.1412%	0.1329%	-0.0083%	-5.85%
Idaho	0.5027%	0.5932%	0.0904%	17.99%
Illinois	4.2771%	4.6757%	0.3986%	9.32%
Indiana	1.8579%	2.0593%	0.2014%	10.84%
Iowa	0.9918%	1.2899%	0.2981%	30.06%
Kansas	1.0891%	1.0308%	-0.0583%	-5.35%
Kentucky	1.5723%	1.5241%	-0.0482%	-3.06%
Louisiana	1.7358%	1.5117%	-0.2241%	-12.91%
Maine	0.7706%	0.9409%	0.1703%	22.10%
Maryland	2.3437%	2.1547%	-0.1890%	-8.07%
Massachusetts	3.1995%	3.4587%	0.2592%	8.10%
Michigan	3.8890%	4.3131%	0.4241%	10.91%
Minnesota	1.9549%	2.7496%	0.7947%	40.65%
Mississippi	1.0840%	0.9950%	-0.0890%	-8.21%
Missouri	2.2200%	2.2431%	0.0230%	1.04%
Montana	0.3930%	0.6958%	0.3027%	77.03%
Nebraska	0.5121%	0.8713%	0.3593%	70.16%
Nevada	0.8107%	0.4807%	-0.3299%	-40.70%
New Hampshire	0.6609%	0.7511%	0.0902%	13.65%
New Jersey	3.0531%	3.2717%	0.2186%	7.16%
New Mexico	0.6516%	0.6191%	-0.0325%	-4.99%
New York	7.2672%	8.8064%	1.5392%	21.18%

Grantee Name	1984-Formula Allotment Percentage (Share of Low Income Home Energy Expenditures (LIHEE))	Actual Share of Total Funding	Percentage Point Difference (Funding Share Minus LIHEE Share)	Percent Difference (% Pt. Diff. over LIHEE Share)
North Carolina	3.1682%	2.8380%	-0.3301%	-10.42%
North Dakota	0.2580%	0.7558%	0.4979%	193.00%
Ohio	3.8855%	4.2110%	0.3255%	8.38%
Oklahoma	1.5540%	1.3543%	-0.1997%	-12.85%
Oregon	0.9862%	1.0536%	0.0674%	6.84%
Pennsylvania	4.5611%	5.1557%	0.5946%	13.04%
Rhode Island	0.5194%	0.6532%	0.1338%	25.75%
South Carolina	1.7356%	1.4585%	-0.2772%	-15.97%
South Dakota	0.2479%	0.6138%	0.3660%	147.65%
Tennessee	2.1611%	1.9610%	-0.2001%	-9.26%
Texas	8.1740%	5.5715%	-2.6025%	-31.84%
Utah	0.6324%	0.7067%	0.0743%	11.74%
Vermont	0.3899%	0.5630%	0.1731%	44.41%
Virginia	2.7854%	2.5736%	-0.2117%	-7.60%
Washington	1.7811%	1.8497%	0.0686%	3.85%
West Virginia	0.7663%	0.8562%	0.0899%	11.73%
Wisconsin	1.9891%	2.4751%	0.4860%	24.43%
Wyoming	0.2241%	0.2829%	0.0589%	26.28%
Total	100.00%	100.00%	0.0000%	0.00%

Table 12 shows how each state's shares of the estimated normal year, low-income home energy (heating and cooling) expenditures—the basis for their FY 1984-Formula allotment percentage—changed from FY 2016 through FY 2020. Table 13 shows how each state's shares of total LIHEAP funding changed through the same period. These differences arose from year-to-year fluctuations in the actual underlying data. For FY 2016 through FY 2020, the fluctuations applied to residential consumption, residential price, and the numbers of households that used the primary home-energy fuels. For FY 2020, the fluctuations additionally applied to home-energy usage shares, consumption rates by income, and certain consumption parameters for fuel oil and wood that resulted from (1) the availability, for the first time in five years, of the newest data from the federal Energy Information Administration's (EIA's) Residential Consumption Survey (RECS); and (2) methodological revisions to the RECS itself.

***Table 12 : Share of Estimated Normal Year, Low Income Home Energy Expenditures
FY 2016 – FY 2020***

Grantee	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Alabama	1.5212%	1.5090%	1.6275%	1.7190%	1.9883%
Alaska	0.4322%	0.4299%	0.4392%	0.4381%	0.3895%
Arizona	1.4396%	1.3141%	1.4193%	1.5427%	1.5381%
Arkansas	0.8912%	0.8438%	0.9311%	0.9041%	0.9782%
California	5.5037%	5.2310%	5.5224%	5.9909%	5.8540%
Colorado	1.4135%	1.4839%	1.4220%	1.4381%	1.6832%
Connecticut	2.5077%	2.4110%	2.2647%	2.0690%	1.8157%
Delaware	0.4088%	0.3847%	0.4118%	0.3833%	0.3884%
District of Columbia	0.1887%	0.2068%	0.2590%	0.1929%	0.2345%
Florida	3.9356%	3.9436%	4.2256%	4.3716%	4.5740%
Georgia	2.9243%	2.9107%	3.1198%	3.3116%	3.7587%
Hawaii	0.1965%	0.1685%	0.1486%	0.1480%	0.1412%
Idaho	0.3868%	0.3510%	0.3435%	0.3618%	0.5027%
Illinois	4.2445%	4.4659%	4.1282%	4.3611%	4.2771%
Indiana	1.7919%	1.7951%	1.7900%	1.7865%	1.8579%
Iowa	1.0539%	1.1111%	1.0031%	0.9775%	0.9918%
Kansas	0.9824%	1.0445%	1.0481%	1.0535%	1.0891%
Kentucky	1.3945%	1.4623%	1.5117%	1.5465%	1.5723%
Louisiana	1.3941%	1.3966%	1.4902%	1.5873%	1.7358%
Maine	1.0658%	1.0622%	1.0247%	0.9356%	0.7706%
Maryland	2.3468%	2.4077%	2.4862%	2.3709%	2.3437%
Massachusetts	4.5010%	4.4067%	4.0501%	3.6059%	3.1995%
Michigan	4.3572%	4.1476%	4.0134%	4.2486%	3.8890%
Minnesota	1.8689%	2.0440%	1.8875%	1.8548%	1.9549%
Mississippi	0.9096%	0.9323%	0.9558%	0.9383%	1.0840%
Missouri	2.1454%	2.1403%	2.2160%	2.1734%	2.2200%
Montana	0.3584%	0.3669%	0.3513%	0.3421%	0.3930%

Grantee	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Nebraska	0.5307%	0.5490%	0.5341%	0.5036%	0.5121%
Nevada	0.7175%	0.7128%	0.7500%	0.7263%	0.8107%
New Hampshire	0.7876%	0.8617%	0.7679%	0.7314%	0.6609%
New Jersey	3.7660%	3.4518%	3.3914%	3.2465%	3.0531%
New Mexico	0.5711%	0.5603%	0.5523%	0.5952%	0.6516%
New York	9.4771%	9.5719%	9.1490%	8.5391%	7.2672%
North Carolina	2.8280%	2.7786%	2.9740%	2.9997%	3.1682%
North Dakota	0.2751%	0.3173%	0.2844%	0.2419%	0.2580%
Ohio	3.8500%	3.9324%	3.9436%	3.9568%	3.8855%
Oklahoma	1.2074%	1.2280%	1.2876%	1.3382%	1.5540%
Oregon	0.8599%	0.8174%	0.8217%	0.8430%	0.9862%
Pennsylvania	5.8102%	5.9886%	5.6194%	5.2776%	4.5611%
Rhode Island	0.8026%	0.7700%	0.7578%	0.6276%	0.5194%
South Carolina	1.3234%	1.3071%	1.3745%	1.4579%	1.7356%
South Dakota	0.2565%	0.2645%	0.2514%	0.2366%	0.2479%
Tennessee	1.7705%	1.8644%	1.8989%	1.9519%	2.1611%
Texas	6.8700%	6.9448%	7.4870%	7.8311%	8.1740%
Utah	0.5264%	0.5090%	0.5338%	0.5876%	0.6324%
Vermont	0.5026%	0.5258%	0.4495%	0.4615%	0.3899%
Virginia	2.6921%	2.6626%	2.7353%	2.7033%	2.7854%
Washington	1.4341%	1.3311%	1.4219%	1.5129%	1.7811%
West Virginia	0.7075%	0.6796%	0.7432%	0.7930%	0.7663%
Wisconsin	2.0998%	2.2193%	2.0184%	1.9909%	1.9891%
Wyoming	0.1695%	0.1804%	0.1624%	0.1937%	0.2241%
Total	100.00%	100.00%	100.00%	100.00%	100.00%

Table 13 : Share of Total LIHEAP Funding FY 2016 – FY 2020

Grantee	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Alabama	1.2996%	1.3334%	1.4245%	1.4921%	1.6918%
Alaska	0.5221%	0.5189%	0.5189%	0.5189%	0.5190%
Arizona	0.6285%	0.6449%	0.7729%	0.8144%	1.0236%
Arkansas	0.8313%	0.7957%	0.8603%	0.8411%	0.8954%
California	5.2870%	5.0838%	5.3011%	5.6467%	5.5443%
Colorado	1.4623%	1.5144%	1.4693%	1.4810%	1.6705%
Connecticut	2.4079%	2.3354%	2.2309%	2.0729%	1.8877%
Delaware	0.3752%	0.3571%	0.3773%	0.3567%	0.3604%
District of Columbia	0.3100%	0.3080%	0.3081%	0.3081%	0.3081%
Florida	2.0564%	2.1099%	2.5288%	2.6644%	3.3489%
Georgia	1.6259%	1.6682%	1.9994%	2.1066%	2.6478%
Hawaii	0.1637%	0.1526%	0.1383%	0.1380%	0.1329%
Idaho	0.5968%	0.5931%	0.5931%	0.5931%	0.5932%
Illinois	4.9618%	4.9667%	4.7251%	4.7408%	4.6757%
Indiana	2.2466%	2.2488%	2.1394%	2.1193%	2.0593%
Iowa	1.5922%	1.5937%	1.5162%	1.5020%	1.2899%
Kansas	0.9526%	0.9971%	1.0007%	1.0053%	1.0308%
Kentucky	1.3940%	1.4430%	1.4802%	1.5067%	1.5241%
Louisiana	1.2603%	1.2599%	1.3296%	1.4013%	1.5117%
Maine	1.1614%	1.1625%	1.1126%	1.0956%	0.9409%
Maryland	2.1562%	2.1971%	2.2569%	2.1742%	2.1547%
Massachusetts	4.4395%	4.3687%	4.0817%	3.7576%	3.4587%
Michigan	4.7108%	4.7154%	4.4861%	4.5799%	4.3131%
Minnesota	3.3939%	3.3972%	3.2320%	3.2016%	2.7496%
Mississippi	0.8669%	0.8826%	0.9006%	0.8885%	0.9950%
Missouri	2.1872%	2.1843%	2.2396%	2.2085%	2.2431%
Montana	0.7000%	0.6956%	0.6957%	0.6957%	0.6958%
Nebraska	0.8767%	0.8712%	0.8712%	0.8712%	0.8713%
Nevada	0.2952%	0.3029%	0.3630%	0.3825%	0.4807%
New Hampshire	0.7878%	0.8470%	0.7735%	0.7510%	0.7511%
New Jersey	3.7927%	3.5646%	3.5205%	3.4147%	3.2717%
New Mexico	0.5600%	0.5519%	0.5465%	0.5782%	0.6191%
New York	10.8696%	10.8803%	10.3511%	10.2539%	8.8064%
North Carolina	2.5874%	2.5471%	2.6925%	2.7130%	2.8380%
North Dakota	0.7604%	0.7557%	0.7557%	0.7557%	0.7558%
Ohio	4.3895%	4.3938%	4.2566%	4.2660%	4.2110%
Oklahoma	1.0995%	1.1126%	1.1573%	1.1950%	1.3543%
Oregon	1.0651%	1.0661%	1.0142%	1.0047%	1.0536%
Pennsylvania	6.0700%	6.2042%	5.9346%	5.6850%	5.1557%

Grantee	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Rhode Island	0.7759%	0.7516%	0.7434%	0.6531%	0.6532%
South Carolina	1.0322%	1.0590%	1.1911%	1.2526%	1.4585%
South Dakota	0.6176%	0.6137%	0.6138%	0.6138%	0.6138%
Tennessee	1.6741%	1.7406%	1.7676%	1.8075%	1.9610%
Texas	3.4212%	3.5101%	4.2070%	4.4327%	5.5715%
Utah	0.7110%	0.7066%	0.7066%	0.7066%	0.7067%
Vermont	0.5664%	0.5629%	0.5629%	0.5629%	0.5630%
Virginia	2.5045%	2.4796%	2.5353%	2.5136%	2.5736%
Washington	1.7519%	1.7536%	1.6683%	1.6542%	1.8497%
West Virginia	0.8614%	0.8560%	0.8561%	0.8561%	0.8562%
Wisconsin	3.0550%	3.0580%	2.9092%	2.8819%	2.4751%
Wyoming	0.2847%	0.2829%	0.2829%	0.2829%	0.2829%
Total	100.0000%	100.00%	100.00%	100.00%	100.00%

SECTION IV: DRIVERS OF MAJOR CHANGES IN GROSS PROGRAM ALLOCATIONS FOR EACH STATE FOR FY 2016–FY 2020

ACF ran, for each of these years, the top-line figures and the calculation sequences that it carried out for FY 2018. It also ran the underlying data for FY 2018 but for one exception regarding the 1984-Formula allotment percentages, which ACF updated to those of the respective year. ACF then compared the changes in gross allocation (before tribal set asides) for the respective year over the previous year. Finally, ACF explored the factors that placed the states in the top three percent of funding increases or decreases. The figures for FY 2018 are actual. By contrast, the figures for FY 2016, FY 2017, FY 2019, and FY 2020 are hypothetical.

In order to apply the same data to all five years to isolate potential causes of change in actual award amounts, ACF assumed the following parameters:

1. A total appropriation of \$3,640,304,000;
2. A 1984-Formula amount of \$678,500,000, calculated as follows:
 - a. By determining the allocations of the following using the statutory Hold Harmless provisions:
 - i. \$2,653,500,000 (i.e., \$678,500,000 + \$1,975,000,000)²; and
 - ii. Exactly \$1,975,000,000; and
 - b. By deducting the results of the second provision from those of the first;
3. A 1981-Formula amount of \$2,961,804,000;
4. A set-aside of \$2,988,000 for LIHEAP Training and Technical Assistance, taken from the 1981-Formula amount and from the calculations of the Hold Harmless rate percentages; and
5. A set-aside of \$18,186,580 (i.e., half of a percent of the total amount to grantees) for territories.

ACF found that the 1981-Formula based allocations remained the same across all six years. Thus, all of the changes arose from the 1984-Formula based allocations that entered into their gross allocations. It is important to note that in all six years Congress required ACF to use a hybrid formula that calculated less than \$1.975 billion for the 1984-Formula. Therefore, in each of those years, ACF had to add \$1.975 billion to the amount appropriated for the 1984-Formula to execute that formula and then deduct the \$1.975 billion before calculating the final 1984-Formula amount for each state. This extra process of adding and deducting \$1.975 billion would be unnecessary if Congress appropriated at least \$1.975 billion towards the 1984-Formula. This

² Because of the way in which the Hold Harmless provisions are calculated ACF cannot run the 1984-Formula's Hold Harmless provisions correctly under a topline amount below \$1,975,000,000. By increasing the Congressionally specified amount by \$1,975,000,000, and by backing out the Hold Harmless provisions under exactly \$1,975,000,000, ACF guarantees that it can run the Hold Harmless provisions correctly.

process, as discussed below, does impact the 1984-Formula method that ultimately determines a state's 1984-Formula amount.³

For each year-over-year period discussed below, ACF noted any high level impact of the \$1.975 billion deduction process—showing the method at the inflated \$2.653 billion versus the method at exactly \$1.975 billion—and found the following about the states' 1984-Formula allocations. More detailed descriptions of these changes appear in APPENDIX 3 of this report.

FY 2015 to FY 2016

For FY 2015 to FY 2016, Louisiana showed the top gross allocation increase (+10.06%), followed in order by Mississippi (+7.67%) and New Mexico (+5.23%). In both years, all three states' 1984-Formula based allocations at \$2,653,500,000 derived from the following:

- At \$2,653,500,000 (i.e., the 1984-Formula amount plus \$1,975,000,000), from their 1984-Formula Percentage amounts; and
- At \$1,975,000,000 (i.e., the amount whose distribution must be backed out from the \$2,653,500,000 distribution to find the 1984-Formula allocations), from their ratably reduced amounts (i.e., their ceilings).

In addition, the three states ranked in the top six of all states in year-over-year percent increase in 1984-Formula percentage. Louisiana ranked first (+12.78%); whereas, Mississippi ranked second (+10.29%) and New Mexico ranked sixth (+7.20%). The factors that drove all three states' increases therefore relate to the increases in their 1984-Formula percentages. For greater depth about the individual factors and their impacts see APPENDIX 3 of this report.

The increases in these states' 1984-Formula percentages were driven by the greater increases or lesser decreases, relative to all states, of the one or more of the following factors:

- All-purpose, all-income consumption of natural gas;
- The climate-adjusted share of natural gas used for heating;
- The climate-adjusted share of electricity used for heating;
- The climate-adjusted share of electricity used for cooling;
- The ratio of low-income natural gas heaters to all-income natural gas heaters;
- The ratio of low-income electricity heaters to all-income electricity heaters;
- The ratio of low-income wood heaters to all-income wood heaters;
- The ratio of low-income households to all-income households;
- Natural gas price; and
- Electricity price.

Conversely, for FY 2015 to FY 2016, New York showed the top allocation decrease (--8.31%), followed in order by Hawaii (-7.34%) and Connecticut (-5.84%). Connecticut's and

³ It is also important to note that ACF normalizes, to 30-years' climate averages, the LIHEE upon which it bases the 1984-Formula percentages. This smooths the year-over-year changes that each year's update would otherwise produce.

Hawaii's 1984-Formula-based allocations at \$1,975,000,000 derived from their ratably reduced amounts in both years while New York's allocations at the same level derived from its Hold Harmless Levels in both years. Also, Connecticut's 1984-Formula-based allocations at \$2,653,500,000 derived from its 1984-Formula allotment percentage amount in both years; whereas Hawaii's and New York's allocations at the same level derived from the following:

- For New York, its 1984-Formula allotment percentage amount in FY 2015 and its Hold Harmless Level in FY 2016; and
- For Hawaii, its ratably reduced amount in FY 2015 and its 1984-Formula allotment percentage amount in FY 2016.

In addition, all three states ranked in the top four of all states in year-over-year percent decrease in 1984-Formula allotment percentage. New York ranked first (-12.18%); Hawaii ranked third (-10.45%); and Connecticut ranked fourth (-7.51%).

All three states' year-to-year decreases related to the decreases in their 1984-Formula percentages. New York's decrease additionally related to the fact that its allocation method at \$2,653,500,000—but not at \$1,975,000,000—differed from FY 2015 to FY 2016. In fact, this difference in dispositive method amplified New York's decrease. It did so by returning different amounts through each method in FY 2015 but the same amount through both methods in FY 2016, i.e., the Hold Harmless Level. When the amounts under both methods are the same the final 1984-Formula allocation becomes zero. As a result, New York's 1984-Formula allocation dropped by 100 percent.⁴

The decreases in these states' 1984-Formula percentages were driven by the lesser increases or greater decreases, relative to all states, of the one or more of the following factors:

- All-purpose, all-income consumption of natural gas;
- All-purpose, all-income consumption of fuel oil;
- All-purpose, all-income consumption of electricity; and
- Electricity price.

FY 2016 to FY 2017

For the FY 2016 to FY 2017, New Hampshire showed the top gross allocation increase (+7.48%), followed in order by Kansas (+4.75%) and Tennessee (+4.08%). All three states' FY 2017 allocations derived from their 1984-Formula allotment percentage amounts at \$2,653,500,000 and their ratably reduced amounts at \$1,975,000,000. Each state's allocations derived from the following for FY 2016:

- For New Hampshire, its Hold Harmless Rate at \$2,653,500,000 and its Hold Harmless level at \$1,975,000,000;

⁴ New York's 1984-Formula allocation for FY 2016 was actually \$1.00 and its decrease from FY 2015 was 99.999997 percent. This is because of a rounding adjustment that ensured that the total amount called-for by Congress exactly equaled the amount distributed.

- For Kansas, its Hold Harmless Rate at \$2,653,500,000 and its ratably reduced amount at \$1,975,000,000; and
- For Tennessee, its 1984-Formula allotment percentage amount at \$2,653,500,000 and its ratably reduced amount at \$1,975,000,000.

In addition, the three states ranked in the top nine of all states in year-over-year percent increase in 1984-Formula allotment percentage. New Hampshire ranked third (+9.40%), Kansas ranked sixth (+6.32%); and Tennessee ranked ninth (+5.30%).

All three states' year-to-year increases were driven by increases in their 1984-Formula percentages.

The increases in these states' 1984-Formula percentages were driven by the greater increases or lesser decreases, relative to all states, of the one or more of the following factors:

- All-purpose, all-income consumption of natural gas;
- All-purpose, all-income consumption of fuel oil;
- All-purpose, all-income consumption of propane;
- All-purpose, all-income consumption of electricity;
- The climate-adjusted share of propane used for heating;
- The climate-adjusted share of electricity used for heating;
- The climate-adjusted share of electricity used for cooling;
- The ratio of low-income natural gas heaters to all-income natural gas heaters;
- The ratio of low-income fuel oil + kerosene heaters to all-income fuel oil + kerosene heaters;
- The ratio of low-income households to all-income households;
- Natural gas price; and
- Propane price.

Conversely, for FY 2016 to FY 2017, Hawaii showed the top gross allocation decrease (-11.82%), followed in order by New Jersey (-6.04%) and Delaware (-4.70%). In both years, Delaware's and Hawaii's 1984-Formula based allocations derived from the following:

- At \$2,653,500,000, from their 1984-Formula allotment percentage amounts; and
- At \$1,975,000,000, from their ratably reduced amounts.

Conversely, Hawaii's 1984-Formula-based allocations, in both years, derived from its 1984-Formula allotment percentage amounts at \$2,653,500,000 and its Hold Harmless Levels at \$1,975,000,000:

In addition, the three states ranked in the top six of all states in year-over-year percent decrease in 1984-Formula percentage. Hawaii ranked first (-14.26%); New Jersey ranked fourth (-8.34%) and Delaware ranked sixth (-5.89%).

All three states' decreases, therefore, were driven by decreases in their 1984-Formula allotment percentages. Holding New Jersey to its Hold Harmless Levels at \$1,975,000,000 magnified its decrease.

The decreases in these states' 1984-Formula percentages were driven by the lesser increases or greater decreases, relative to all states, of the one or more of the following factors:

- All-purpose, all-income consumption of electricity;
- The climate-adjusted share of electricity used for cooling;
- The ratio of low-income natural gas heaters to all-income natural gas heaters;
- The ratio of low-income fuel oil + kerosene heaters to all-income fuel oil + kerosene heaters;
- The ratio of low-income propane heaters to all-income propane heaters;
- The ratio of low-income electricity heaters to all-income electricity heaters;
- The ratio of low-income households to all-income households;
- Natural gas price;
- Propane price; and
- Electricity price.

FY 2017 to FY 2018

For FY 2017 to FY 2018, Arkansas showed the top gross allocation increase (+8.10%), followed in order by Alabama (+6.54%) and North Carolina (+5.68%). In both years, all three states' 1984-Formula based allocations derived from the following:

- At \$2,653,500,000, from their 1984-Formula allotment percentage amounts; and
- At \$1,975,000,000, from their ratably reduced amounts.

In addition, the three states ranked in the top ten of all states in year-over-year percent increase in 1984-Formula allotment percentage. Arkansas ranked second (+10.35%), Alabama ranked fifth (+7.86%), and North Carolina ranked tenth (+7.03%).

All three states' increases, therefore, appear to be driven by increases in their 1984-Formula percentages.

The increases in these states' 1984-Formula percentages were driven by the greater increases or lesser decreases, relative to all states, of the one or more of the following factors:

- All-purpose, all-income consumption of propane;
- All-purpose, all-income consumption of fuel oil;
- The climate-adjusted share of electricity used for cooling;
- The ratio of low-income electricity heaters to all-income electricity heaters;
- The ratio of low-income households to all-income households;
- Natural gas price; and
- Electricity price.

Conversely, for FY 2017 to FY 2018, Hawaii showed the top gross allocation decrease (-9.42%), followed in order by New Hampshire (-8.66%) and Massachusetts (-6.55%). In both years, Hawaii's allocations derived from the following:

- At \$2,653,500,000, from its 1984-Formula allotment percentage amounts; and
- At \$1,975,000,000, from its ratably reduced amounts.

Similar to Hawaii, the 1984-Formula allocations for both Massachusetts and New Hampshire in FY 2017 derived from their 1984-Formula allotment percentage amounts at \$2,653,500,000 and their ratably reduced amounts at \$1,975,000,000. However, their allocations derived from the following for FY 2018:

- For Massachusetts, its 1984-Formula allotment percentage amount at \$2,653,500,000 and its Hold Harmless Level at \$1,975,000,000; and
- For New Hampshire, its Hold Harmless rate at \$2,653,500,000 and its Hold Harmless Level at \$1,975,000,000.

In addition, these states ranked in the top eight of all states in year-over-year percent decrease in the 1984-Formula percentage. Hawaii ranked second (-11.80%), New Hampshire ranked third (-10.89%), and Massachusetts ranked eighth (-8.09%).

All three states' decreases, therefore, were driven by decreases in their 1984-Formula percentages. New Hampshire's and Massachusetts' decreases were magnified by their being raised to at their Hold Harmless Levels at \$1,975,000,000 for FY 2018. This is because ACF deducted the allocations at \$1,975,000,000 and the Hold Harmless Levels boosted those deductions.

The decreases in these states' 1984-Formula percentages were driven by the lesser increases or greater decreases, relative to all states, of the one or more of the following factors:

- All-purpose, all-income consumption of fuel oil;
- The climate-adjusted share of electricity used for cooling;
- The ratio of low-income households to all-income households; and
- Electricity price.

FY 2018 to FY 2019

For FY 2018 to FY 2019, California showed the top gross allocation increase (+6.52%), followed in order by New Mexico (+5.82%) and Louisiana (+5.39%). In both years, all three states' 1984-Formula based allocations derived from the following:

- At \$2,653,500,000, their 1984-Formula allotment percentage amounts; and
- At \$1,975,000,000 their ratably reduced amounts.

In addition, the three states ranked in the top seven of all states in year-over-year percent increase in 1984-Formula allotment percentage. California ranked fourth (+8.48%), New Mexico ranked fifth (+7.78%), and Louisiana ranked seventh (+6.52%).

All three states' increases, therefore, appear to be driven by increases in their 1984-Formula allotment percentages—with those increases magnified by their ratable reductions in the \$1,975,000,000 deduction.

The increases in these states' 1984-Formula percentages were driven by the greater increases or lesser decreases, relative to all states, of the one or more of the following factors:

- All-purpose, all-income consumption of natural gas;
- All-purpose, all-income consumption of propane;
- The ratio of low-income natural gas heaters to all-income natural gas heaters;
- The ratio of low-income propane heaters to all-income propane heaters;
- The ratio of low-income households to all-income households;
- Natural gas price;
- Propane price; and
- Electricity price.

Conversely, Rhode Island showed the top gross allocation decrease (-12.14%), followed in order by Massachusetts (-7.94%) and Connecticut (-7.08%).

In FY 2018, all three states' allocations at \$2,653,500,000 derived from their 1984-Formula allotment percentage amounts. Plus, Connecticut's and Rhode Island's allocations at \$1,975,000,000 derived from their ratably reduced amounts. However, Massachusetts' allocation at \$1,975,000,000 derived from its Hold Harmless Level.

In FY 2019, all three states' allocations at \$1,975,000,000 derived from their Hold Harmless Levels. Plus, Connecticut's and Massachusetts' allocations at \$2,653,500,000 derived from their 1984-Formula allotment percentage amounts. However, Rhode Island's allocation at \$2,653,500,000 derived from its Hold Harmless Rate amount.

In addition, these states ranked in the top six of all states in year-over-year percent decrease in 1984-Formula allotment percentage. Rhode Island ranked second (-17.18%); Massachusetts ranked fourth (-10.97%); and Connecticut ranked sixth (-8.64%).

All three states' decreases were driven by decreases in their 1984-Formula allotment percentages. Connecticut's and Rhode Island's decreases were magnified by the FY 2019 \$1,975,000,000 backout deductions, which switched from their ratably reduced amounts to their Hold Harmless Levels. Rhode Island's was attenuated by being raised to its Hold Harmless rate amount at \$2,653,500,000 in FY 2019.

The decreases in these states' 1984-Formula percentages were driven by the lesser increases or greater decreases, relative to all states, of the one or more of the following factors:

- All-purpose, all-income consumption of natural gas;
- All-purpose, all-income consumption of fuel oil;
- The climate-adjusted share of natural gas used for heating;
- The climate-adjusted share of electricity used for heating;
- The ratio of low-income natural gas heaters to all-income natural gas heaters;

- The ratio of low-income fuel oil + kerosene heaters to all-income fuel oil + kerosene heaters; and
- Electricity price.

FY 2019 to FY 2020

For FY 2019 to FY 2020, Oklahoma showed the top gross allocation increase (+13.14%), followed in order by Colorado (+12.90%) and Mississippi (+11.92%). The allocations of all three states, in both years, derived from their 1984 Formula percentage amounts at \$2,653,500,000. Those of all but one state, in both years, derived from their ratably reduced amounts at \$1,975,000,000. Colorado's FY 2020 allocation at \$1,975,000,000 derived from its Hold Harmless Level.

These states ranked in the top 10 of all states in year-over-year percent increase in 1984-Formula allotment percentage. Colorado ranked fifth (+17.05%); Oklahoma ranked seventh (+16.12%) and Mississippi ranked tenth (+15.52%).

All three states' increases, therefore, appear to be driven by increases in their 1984-Formula allotment percentages—with Colorado's increase attenuated by being held to its Hold Harmless Level at \$1,975,000,000 in FY 2019.

The increases in these states' 1984-Formula percentages were driven by the greater increases or lesser decreases, relative to all states, of the one or more of the following factors:

- All-purpose, all-income consumption of propane;
- The climate-adjusted share of natural gas used for heating;
- The climate-adjusted share of propane used for heating;
- The climate-adjusted share of electricity used for heating;
- The ratio of average natural gas-for-heating consumption by low-income households to such consumption by all-income households;
- The ratio of average propane-for-heating consumption by low-income households to such consumption by all-income households;
- The ratio of average electricity-for-heating consumption by low-income households to such consumption by all-income households;
- Natural gas price; and
- Electricity price.

Conversely, Connecticut showed the top gross allocation decrease (-8.92%), followed in order by Massachusetts (-7.89%) and New Jersey (-4.13%). All three states' allocations, for both years, derived from their 1984 Formula percentage amounts at \$2,653,500,000 and their Hold Harmless Levels at \$1,975,000,000.

These states ranked in the top 11 of all states in year-over-year percent decrease in 1984-Formula allotment percentage. These states ranked in the top 10 of all states in year-over-year percent increase in 1984-Formula allotment percentage. Connecticut ranked sixth (-

12.24%); Massachusetts ranked seventh (-11.27%); and New Jersey ranked eleventh (-5.96%).

All three states' decreases, therefore, appear to be driven by decreases in their 1984-Formula allotment percentages.

These magnitudes of these increases and decreases exceeded those of the previous four years. The increases averaged 10.31 percent and the decreases averaged 8.05 percent (unweighted). This effect probably arose from ACF's use of an updated data set from DOE—the 2015 Residential Energy Consumption Survey (RECS) instead of the 2009 RECS—to calculate the FY 2020 1984-Formula percentages.

The decreases in these states' 1984-Formula percentages were driven by the lesser increases or greater decreases, relative to all states, of the one or more of the following factors:

- The ratio of fuel oil heaters living in buildings with five or more residential units to such heaters living in other buildings;
- The climate-adjusted share of natural gas used for heating;
- The climate-adjusted share of fuel oil used for heating;
- The climate-adjusted share of electricity used for cooling;
- The ratio of average natural gas-for-heating consumption by low-income households to such consumption by all-income households;
- The ratio of average propane-for-heating consumption by low-income households to such consumption by all-income households;
- The ratio of average electricity-for-heating consumption by low-income households to such consumption by all-income households;
- The ratio of average electricity-for-cooling consumption by low-income households to such consumption by all-income households;
- Natural gas price; and
- Propane gas price.

Summary of Year-to-Year Changes

The results show that the 1984-Formula allotment percentages, which drive the allocation methods that the formulas generate, and their interplay with the statutory Hold Harmless provisions are the major drivers of the year-over-year fluctuations in states' 1984-Formula allocations. These fluctuations may be attenuated or magnified by the methods of the \$1,975,000,000 deduction results. Finally, EIA's updating of the RECS data for the first time in five years and its methodological changes to the RECS magnified these fluctuations.

ACF shows the reasons behind the 1984-Formula allotment percentage changes in APPENDIX 3.

SECTION V: FUNDING AMOUNTS THAT TRIGGER EACH STATE’S 1984-FORMULA SHARE TO BE BASED ON ITS 1984-FORMULA PERCENTAGE

The report *Low Income Home Energy Assistance Program (LIHEAP): An Assessment of the Program's Formula and Allocations of Funding Among States*, which ACF submitted to Congress on November 17, 2020 (FY 2020 LIHEAP Formula Report), introduced the concept of a “breakeven point” for the 1984-Formula. That point is the minimum 1984-Formula appropriation level, excluding topline set-asides, at which a given state’s 1984-Formula amount extends directly from its 1984 allotment percentage—the percentage that fluctuates from year-to-year based on annual federal data updates related to low income home energy expenditures. That prior ACF report stated the breakeven point could be derived for any given state from the following formula:

$$[\text{State Breakeven Point}] = \$1.975 \text{ billion} \times \left[\frac{\text{State 1981} - \text{Formula Percentage}}{\text{State 1984} - \text{Formula Percentage for the given year}} \right]$$

A few clarifications are needed regarding caveats to this formula. Those caveats include that the breakeven point formula, as shown above, does not: (1) include topline set-asides such as those to the territories and federal training and technical assistance (T&TA) funding; (2) apply the statutory ratable reductions through the ceiling limit of the 1984-Formula; or (3) raise small states to their Hold Harmless rate amounts as directed by statute for the 1984-Formula. Therefore, when Congress calls for a hybrid formula, the breakeven point formula shows the amount needed for the 1984-Formula portion only, not the total amount needed for also running the 1981-Formula or topline set asides.

To determine a breakeven point without overriding the normal Hold Harmless provisions of the 1984-Formula, ACF would need to further refine this methodology to analyze the point at which states held to their Hold Harmless rates functionally achieve the same as what their 1984-Formula allotment percentage would have given.

ACF ran the original breakeven formula using the FY 2021 updates to the 1984-Formula allotment percentages. ACF found the breakeven points of 36 states, of which 31 states received amounts that extended directly from their 1984-Formula allotment percentages and the remainder were held to their ratable reduction amounts. All of the 15 states for which ACF did not find the breakeven points were held to their Hold Harmless rate amounts. Table 14 shows these results.

Table 14 : State-by-State Target 1984-Formula Appropriation Levels, Including Breakeven Points, to Trigger the 1984-Formula Percentages for FY 2021

State	1984-Formula Allotment Percentage for FY 2021	FY 1981 Allotment Percentage	HH Rate Applicable? (small state & FY 2021 factor < max share of \$2.25B or \$2.14B)	Breakeven Point of 1984-Formula Amount Needed to be Appropriated~
Alabama	1.9714%	0.8600%	No	\$861,602,030

State	1984-Formula Allotment Percentage for FY 2021	FY 1981 Allotment Percentage	HH Rate Applicable? (small state & FY 2021 factor < max share of \$2.25B or \$2.14B)	Breakeven Point of 1984- Formula Amount Needed to be Appropriated~
Alaska	0.3932%	0.5490%	Yes	N/A
Arizona	1.5250%	0.4159%	No	\$538,662,992
Arkansas	0.9766%	0.6563%	No	\$1,327,150,795
California	5.4733%	4.6139%	No	\$1,664,873,571
Colorado	1.6293%	1.6087%	No	\$1,950,078,781
Connecticut	1.9767%	2.0986%	No	\$2,096,819,757
Delaware	0.4089%	0.2786%	No	\$1,345,580,111
District of Columbia	0.2242%	0.3259%	Yes	N/A
Florida	4.4310%	1.3608%	No	\$606,561,141
Georgia	3.4445%	1.0760%	No	\$616,926,781
Hawaii	0.1509%	0.1084%	Yes	N/A
Idaho	0.4698%	0.6275%	Yes	N/A
Illinois	4.0985%	5.8087%	No	\$2,799,101,032
Indiana	1.8419%	2.6300%	No	\$2,820,080,355
Iowa	1.0120%	1.8639%	No	\$3,637,750,996
Kansas	1.0882%	0.8560%	No	\$1,553,593,514
Kentucky	1.5676%	1.3686%	No	\$1,724,343,983
Louisiana	1.6925%	0.8793%	No	\$1,026,024,817
Maine	0.8096%	1.3596%	No	\$3,316,619,658
Maryland	2.2956%	1.6069%	No	\$1,382,456,993
Massachusetts	3.5171%	4.1980%	No	\$2,357,323,233
Michigan	3.8586%	5.5148%	No	\$2,822,734,790
Minnesota	1.9926%	3.9731%	No	\$3,938,001,635
Mississippi	1.0760%	0.7374%	No	\$1,353,450,822
Missouri	2.2187%	2.3202%	No	\$2,065,332,901
Montana	0.3757%	0.7360%	Yes	N/A
Nebraska	0.5192%	0.9218%	Yes	N/A
Nevada	0.7737%	0.1953%	No	\$498,638,301
New Hampshire	0.7070%	0.7946%	Yes	N/A
New Jersey	3.1123%	3.8972%	No	\$2,473,075,989
New Mexico	0.6249%	0.5207%	Yes	N/A
New York	7.9246%	12.7248%	No	\$3,171,314,292
North Carolina	3.2356%	1.8964%	No	\$1,157,539,828
North Dakota	0.2611%	0.7995%	Yes	N/A
Ohio	3.8332%	5.1386%	No	\$2,647,626,725
Oklahoma	1.4593%	0.7906%	No	\$1,069,955,827
Oregon	0.9285%	1.2468%	No	\$2,652,025,043

State	1984-Formula Allotment Percentage for FY 2021	FY 1981 Allotment Percentage	HH Rate Applicable? (small state & FY 2021 factor < max share of \$2.25B or \$2.14B)	Breakeven Point of 1984- Formula Amount Needed to be Appropriated~
Pennsylvania	4.8288%	6.8351%	No	\$2,795,576,362
Rhode Island	0.6286%	0.6910%	Yes	N/A
South Carolina	1.6556%	0.6831%	No	\$814,816,747
South Dakota	0.2526%	0.6494%	Yes	N/A
Tennessee	2.1983%	1.3864%	No	\$1,245,563,057
Texas	8.1413%	2.2640%	No	\$549,225,378
Utah	0.5861%	0.7476%	Yes	N/A
Vermont	0.4065%	0.5956%	Yes	N/A
Virginia	2.8663%	1.9574%	No	\$1,348,738,687
Washington	1.6291%	2.0509%	No	\$2,486,314,663
West Virginia	0.7863%	0.9057%	Yes	N/A
Wisconsin	1.9092%	3.5764%	No	\$3,699,630,340
Wyoming	0.2126%	0.2993%	Yes	N/A

We see from the table above that in FY 2021, only 36 states had breakeven points and the Minnesota had the highest breakeven point of \$3,938,001,635. That is the amount Congress would have needed to appropriate through the 1984-Formula in FY 2021 in order for the 36 breakeven states to have a share of the 1984-Formula based on their respective 1984-Formula allotment percentages.

SECTION VI: STATE ALLOCATIONS WITH THE FORMULA REVISED TO INCLUDE THREE-YEAR MOVING AVERAGES OF LOW INCOME HOME ENERGY EXPENDITURES (LIHEE)—ANNUALLY UPDATED AND TRIENNIALLY UPDATED

In this section, we show hypothetical state allocations from FY 2016 through FY 2020 that would have resulted from using three-year moving averages of LIHEE instead of single-year LIHEE to determine the 1984-Formula Percentages. In accordance with Congress' request, we show the results of these moving averages as calculated in the following two ways:

1. By updating these averages annually; and
2. By updating these averages triennially.

Uncertainties and Methodological Approaches

The committee report said that Congress wanted ACF to revise and report on the state's allocations over the past five years by recalculating the formula "to take into account a changing (moving) prior three-year average of low income home energy expenditures". This left unclear whether Congress wanted ACF, for each year, to revise (1) only the LIHEE; or (2) the LIHEE plus the other fiscal year conditions that applied to those years, such as the total appropriation amount, the amount funded through the 1981-Formula and the amount funded through the 1984-Formula, recissions, etc.

The committee report also said that Congress wanted the update periods (whether annual or triennial) to be based on the three-year timespans ending two years prior to the target year. However, ACF believes that the report might have intended to say that Congress wanted those periods to be based on the timespans ending in the target year—not two years prior. This is because (1) Congress has shown ongoing interest in maximizing data currency; and (2) most of the data in each update comes from two years prior.

Owing to these uncertainties, ACF presents the results from the following three approaches:

- | | |
|------------|---|
| Approach 1 | Revisions to <i>LIHEE plus the other fiscal year conditions</i> with the update periods based on the three-year timespans ending <i>on the target year</i> . |
| Approach 2 | Revisions to <i>LIHEE plus the other fiscal year conditions</i> with the update periods based on the three-year timespans ending <i>two years before the target year</i> . |
| Approach 3 | Revisions to <i>LIHEE only</i> (using the FY 2018 top-line figures and formula template) with the update periods based on the three-year timespans ending <i>two years before the target year</i> . |

For Approach 1 and Approach 2, ACF updated the LIHEE and all of the other fiscal year conditions that applied to each year. These conditions consisted of the top-line figures, the 1984-Formula asides, the 1981-Formula amounts, and the transfer amounts and methodologies. See Table 15 for a summary of these parameters set by Congress in each year's appropriations law.

Table 15 : Summary of Actual LIHEAP Block Grant Allocation Funding Parameters FY 2016 to FY 2020

LIHEAP Block Grant⁵	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020⁶
Total Appropriation	\$3,390,304,000	\$3,390,304,000	\$3,640,304,000	\$3,690,304,000	\$4,640,304,000
Amount through 1984-Formula	\$491,000,000	\$491,000,000	\$678,500,000	\$716,000,000	\$1,428,000,000
Amount through 1981-Formula	\$2,896,316,000	\$2,896,316,000	\$2,958,816,000	\$2,971,316,000	\$3,209,316,000
T&TA Amount	\$2,988,000	\$2,988,000	\$2,988,000	\$2,988,000	\$2,988,000
Transfer Amount ⁷	\$19,473,000	\$0	\$0	\$36,903,040	\$0
Total Amount Available to All Grantees (i.e., States, Tribes, Territories)	\$3,367,843,000	\$3,387,316,000	\$3,637,316,000	\$3,650,412,960	\$4,637,316,000
Total Amount Available to States & Tribes (i.e., Gross State Allocations)	\$3,351,003,785	\$3,370,379,420	\$3,619,129,420	\$3,632,160,894	\$4,614,129,420
Total Amount Available to Territories	\$16,839,215	\$16,936,580	\$18,186,580	\$18,252,066	\$23,186,580

Approach 1: Revisions to LIHEE Plus Other Fiscal Year Conditions and Update Timespans Ending on the Target year

Approach 1 uses the three-year average of estimated LIHEE for the period ending on the target year. Thus, the three-year/triennial averaging period for FY 2016 is FY 2014 through FY 2016. See Table 16 through Table 20 for the allocations that result from each method (annual and triennial) and for comparisons with the actual state allocations for those years.

⁵ All figures exclude prior year reallocations.

⁶ FY 2020's figures include those of the LIHEAP supplemental that were appropriated by the CARES Act (Public Law 116-136).

⁷ ACF deducted FY 2016's transfer entirely from the amount that it ran through the 1981-Formula portion, i.e., "off the top". It deducted FY 2019's transfer entirely and proportionately from each grantee, i.e., "off-the-bottom".

Table 16 : Actual FY 2016 State Gross Allocations and Hypothetical Allocations with 1984-Formula Factors Averaged for FY 2014 - FY 2016 (Annually and Triennially)⁸

Grantee	Actual Gross Allocation for FY 2016	FY 2016 Gross Alloc. with Annually Updated Avg. 1984-Formula Factors (FY 2014 - FY 2016)	FY 2016 Gross Alloc. with Triennially Updated Avg. 1984-Formula Factors (FY 2014 - FY 2016) ⁹	FY 2016 Annually Updated Avg. over Actual--Perc. Difference in Allocation	FY 2016 Triennially Updated Avg. over Actual--Perc. Difference in Allocation
Alabama	\$43,551,071	\$46,299,965	\$46,299,965	6.31%	6.31%
Alaska	\$17,496,313	\$17,496,313	\$17,496,313	0.00%	0.00%
Arizona	\$21,061,817	\$22,511,962	\$22,511,962	6.89%	6.89%
Arkansas	\$27,857,843	\$27,369,467	\$27,369,467	-1.75%	-1.75%
California	\$177,168,033	\$167,937,650	\$167,937,650	-5.21%	-5.21%
Colorado	\$49,002,284	\$47,615,633	\$47,615,633	-2.83%	-2.83%
Connecticut	\$80,689,886	\$81,197,728	\$81,197,728	0.63%	0.63%
Delaware	\$12,573,831	\$12,714,027	\$12,714,027	1.11%	1.11%
District of Columbia	\$10,387,179	\$10,387,179	\$10,387,179	0.00%	0.00%
Florida	\$68,910,798	\$73,655,435	\$73,655,435	6.89%	6.89%
Georgia	\$54,484,552	\$58,235,916	\$58,235,916	6.89%	6.89%
Hawaii	\$5,486,895	\$5,864,681	\$5,864,681	6.89%	6.89%
Idaho	\$19,998,828	\$19,998,828	\$19,998,828	0.00%	0.00%
Illinois	\$166,270,241	\$166,270,241	\$166,270,241	0.00%	0.00%
Indiana	\$75,282,494	\$75,282,494	\$75,282,494	0.00%	0.00%
Iowa	\$53,353,713	\$53,353,713	\$53,353,713	0.00%	0.00%
Kansas	\$31,920,554	\$31,196,164	\$31,196,164	-2.27%	-2.27%
Kentucky	\$46,712,638	\$46,627,492	\$46,627,492	-0.18%	-0.18%

⁸ The six states with yellow-filled cells have percentage differences from FY 2016 actual—in the annual category or the triennial category—that fall in the top two most extreme of either category.

⁹ We present FY 2016 Gross Alloc. with Triennially Updated Avg. 1984-Formula Factors (FY 2014 – FY 2016) even though it shows the same results as FY 2016 Gross Alloc. with Annually Updated Avg. 1984-Formula Factors (FY 2014 – FY 2016). This is to keep consistent with the presentation of Table 22, and Table 24, in which these results differ.

Grantee	Actual Gross Allocation for FY 2016	FY 2016 Gross Alloc. with Annually Updated Avg. 1984-Formula Factors (FY 2014 - FY 2016)	FY 2016 Gross Alloc. with Triennially Updated Avg. 1984-Formula Factors (FY 2014 - FY 2016) ⁹	FY 2016 Annually Updated Avg. over Actual--Perc. Difference in Allocation	FY 2016 Triennially Updated Avg. over Actual--Perc. Difference in Allocation
Louisiana	\$42,233,740	\$40,895,737	\$40,895,737	-3.17%	-3.17%
Maine	\$38,917,389	\$38,917,389	\$38,917,389	0.00%	0.00%
Maryland	\$72,254,634	\$69,820,604	\$69,820,604	-3.37%	-3.37%
Massachusetts	\$148,767,750	\$144,859,452	\$144,859,452	-2.63%	-2.63%
Michigan	\$157,859,020	\$160,170,496	\$160,170,496	1.46%	1.46%
Minnesota	\$113,728,493	\$113,728,493	\$113,728,493	0.00%	0.00%
Mississippi	\$29,051,131	\$28,728,656	\$28,728,656	-1.11%	-1.11%
Missouri	\$73,294,773	\$72,200,773	\$72,200,773	-1.49%	-1.49%
Montana	\$23,457,354	\$23,457,354	\$23,457,354	0.00%	0.00%
Nebraska	\$29,377,218	\$29,377,218	\$29,377,218	0.00%	0.00%
Nevada	\$9,892,109	\$10,573,199	\$10,573,199	6.89%	6.89%
New Hampshire	\$26,398,950	\$25,636,458	\$25,636,458	-2.89%	-2.89%
New Jersey	\$127,094,199	\$125,353,870	\$125,353,870	-1.37%	-1.37%
New Mexico	\$18,766,313	\$16,840,622	\$16,840,622	-10.26%	-10.26%
New York	\$364,241,895	\$364,241,898	\$364,241,898	0.00%	0.00%
North Carolina	\$86,702,402	\$87,153,969	\$87,153,969	0.52%	0.52%
North Dakota	\$25,481,783	\$25,481,783	\$25,481,783	0.00%	0.00%
Ohio	\$147,090,880	\$147,090,880	\$147,090,880	0.00%	0.00%
Oklahoma	\$36,844,135	\$36,772,140	\$36,772,140	-0.20%	-0.20%
Oregon	\$35,689,880	\$35,689,880	\$35,689,880	0.00%	0.00%
Pennsylvania	\$203,405,185	\$203,018,976	\$203,018,976	-0.19%	-0.19%
Rhode Island	\$26,001,646	\$25,683,078	\$25,683,078	-1.23%	-1.23%
South Carolina	\$34,588,425	\$36,969,904	\$36,969,904	6.89%	6.89%
South Dakota	\$20,695,670	\$20,695,670	\$20,695,670	0.00%	0.00%
Tennessee	\$56,100,554	\$56,436,270	\$56,436,270	0.60%	0.60%
Texas	\$114,644,576	\$122,538,069	\$122,538,069	6.89%	6.89%

Grantee	Actual Gross Allocation for FY 2016	FY 2016 Gross Alloc. with Annually Updated Avg. 1984- Formula Factors (FY 2014 - FY 2016)	FY 2016 Gross Alloc. with Triennially Updated Avg. 1984- Formula Factors (FY 2014 - FY 2016)⁹	FY 2016 Annually Updated Avg. over Actual--Perc. Difference in Allocation	FY 2016 Triennially Updated Avg. over Actual--Perc. Difference in Allocation
Utah	\$23,825,423	\$23,825,423	\$23,825,423	0.00%	0.00%
Vermont	\$18,981,020	\$18,981,020	\$18,981,020	0.00%	0.00%
Virginia	\$83,926,259	\$82,367,607	\$82,367,607	-1.86%	-1.86%
Washington	\$58,704,936	\$58,704,936	\$58,704,936	0.00%	0.00%
West Virginia	\$28,865,924	\$28,865,924	\$28,865,924	0.00%	0.00%
Wisconsin	\$102,371,974	\$102,371,974	\$102,371,974	0.00%	0.00%
Wyoming	\$9,539,175	\$9,539,175	\$9,539,175	0.00%	0.00%
<i>Total</i>	<i>\$3,351,003,785</i>	<i>\$3,351,003,785</i>	<i>\$3,351,003,785</i>	<i>0.00%</i>	<i>0.00%</i>

**Table 17 : Actual FY 2017 State Gross Allocations and Hypothetical Allocations with 1984-Formula Factors
Averaged for (1) 2015 - FY 2017; and (2) 2014 - FY 2016¹⁰**

Grantee	Actual Gross Allocation for FY 2017	FY 2017 Gross Alloc. with Annually Updated Avg. 1984-Formula Factors (FY 2015 - FY 2017)	FY 2017 Gross Alloc. with Triennially Updated Avg. 1984-Formula Factors (FY 2014 - FY 2016)	FY 2017 Annually Updated Avg. over Actual--Perc. Difference in Allocation	FY 2017 Triennially Updated Avg. over Actual--Perc. Difference in Allocation
Alabama	\$44,941,278	\$44,964,079	\$46,466,604	0.05%	3.39%
Alaska	\$17,487,781	\$17,487,781	\$17,487,781	0.00%	0.00%
Arizona	\$21,734,137	\$21,803,159	\$22,694,634	0.32%	4.42%
Arkansas	\$26,818,870	\$27,218,220	\$27,496,620	1.49%	2.53%
California	\$171,344,037	\$174,673,887	\$168,831,621	1.94%	-1.47%
Colorado	\$51,040,984	\$49,723,930	\$47,927,333	-2.58%	-6.10%
Connecticut	\$78,713,173	\$81,932,776	\$81,604,351	4.09%	3.67%
Delaware	\$12,035,851	\$12,412,553	\$12,767,998	3.13%	6.08%
District of Columbia	\$10,382,114	\$10,382,114	\$10,382,114	0.00%	0.00%
Florida	\$71,110,522	\$71,336,348	\$74,253,111	0.32%	4.42%
Georgia	\$56,223,772	\$56,402,322	\$58,708,470	0.32%	4.42%
Hawaii	\$5,143,448	\$5,680,029	\$5,912,270	10.43%	14.95%
Idaho	\$19,989,075	\$19,989,075	\$19,989,075	0.00%	0.00%
Illinois	\$167,395,704	\$167,395,704	\$167,395,704	0.00%	0.00%
Indiana	\$75,792,072	\$75,792,072	\$75,792,072	0.00%	0.00%
Iowa	\$53,714,858	\$53,714,858	\$53,714,858	0.00%	0.00%
Kansas	\$33,605,917	\$32,191,789	\$31,362,018	-4.21%	-6.68%
Kentucky	\$48,634,012	\$46,918,489	\$46,892,675	-3.53%	-3.58%
Louisiana	\$42,462,057	\$41,134,756	\$41,066,100	-3.13%	-3.29%
Maine	\$39,180,816	\$39,180,816	\$39,180,816	0.00%	0.00%
Maryland	\$74,051,242	\$71,918,961	\$70,131,950	-2.88%	-5.29%

¹⁰ The six states with yellow-filled cells have percentage differences from FY 2017 actual—in the annual category or the triennial category—that fall in the top two most extreme of either category.

Grantee	Actual Gross Allocation for FY 2017	FY 2017 Gross Alloc. with Annually Updated Avg. 1984-Formula Factors (FY 2015 - FY 2017)	FY 2017 Gross Alloc. with Triennially Updated Avg. 1984-Formula Factors (FY 2014 - FY 2016)	FY 2017 Annually Updated Avg. over Actual--Perc. Difference in Allocation	FY 2017 Triennially Updated Avg. over Actual--Perc. Difference in Allocation
Massachusetts	\$147,241,978	\$147,906,615	\$145,672,833	0.45%	-1.07%
Michigan	\$158,927,549	\$158,927,549	\$161,239,025	0.00%	1.45%
Minnesota	\$114,498,307	\$114,498,307	\$114,498,307	0.00%	0.00%
Mississippi	\$29,746,159	\$28,689,007	\$28,871,523	-3.55%	-2.94%
Missouri	\$73,618,155	\$73,654,959	\$72,650,327	0.05%	-1.31%
Montana	\$23,445,914	\$23,445,914	\$23,445,914	0.00%	0.00%
Nebraska	\$29,362,891	\$29,362,891	\$29,362,891	0.00%	0.00%
Nevada	\$10,207,878	\$10,240,295	\$10,658,994	0.32%	4.42%
New Hampshire	\$28,546,488	\$27,064,403	\$25,790,414	-5.19%	-9.65%
New Jersey	\$120,141,895	\$124,707,714	\$126,108,968	3.80%	4.97%
New Mexico	\$18,600,409	\$18,462,032	\$16,941,513	-0.74%	-8.92%
New York	\$366,707,404	\$366,707,406	\$366,707,405	0.00%	0.00%
North Carolina	\$85,848,491	\$86,556,980	\$87,521,405	0.83%	1.95%
North Dakota	\$25,469,355	\$25,469,355	\$25,469,355	0.00%	0.00%
Ohio	\$148,086,520	\$148,086,520	\$148,086,520	0.00%	0.00%
Oklahoma	\$37,498,248	\$36,987,808	\$36,925,316	-1.36%	-1.53%
Oregon	\$35,931,461	\$35,931,461	\$35,931,461	0.00%	0.00%
Pennsylvania	\$209,106,656	\$206,598,954	\$204,343,318	-1.20%	-2.28%
Rhode Island	\$25,333,324	\$26,301,768	\$25,816,966	3.82%	1.91%
South Carolina	\$35,692,535	\$35,805,884	\$37,269,896	0.32%	4.42%
South Dakota	\$20,685,578	\$20,685,578	\$20,685,578	0.00%	0.00%
Tennessee	\$58,665,764	\$56,818,796	\$56,704,895	-3.15%	-3.34%
Texas	\$118,304,182	\$118,679,882	\$123,532,402	0.32%	4.42%
Utah	\$23,813,803	\$23,813,803	\$23,813,803	0.00%	0.00%
Vermont	\$18,971,763	\$18,971,763	\$18,971,763	0.00%	0.00%
Virginia	\$83,571,402	\$83,196,467	\$82,746,862	-0.45%	-0.99%

Grantee	Actual Gross Allocation for FY 2017	FY 2017 Gross Alloc. with Annually Updated Avg. 1984- Formula Factors (FY 2015 - FY 2017)	FY 2017 Gross Alloc. with Triennially Updated Avg. 1984- Formula Factors (FY 2014 - FY 2016)	FY 2017 Annually Updated Avg. over Actual--Perc. Difference in Allocation	FY 2017 Triennially Updated Avg. over Actual--Perc. Difference in Allocation
Washington	\$59,102,303	\$59,102,303	\$59,102,303	0.00%	0.00%
West Virginia	\$28,851,846	\$28,851,846	\$28,851,846	0.00%	0.00%
Wisconsin	\$103,064,918	\$103,064,918	\$103,064,918	0.00%	0.00%
Wyoming	\$9,534,524	\$9,534,524	\$9,534,524	0.00%	0.00%
<i>Total</i>	<i>\$3,370,379,420</i>	<i>\$3,370,379,420</i>	<i>\$3,370,379,420</i>	<i>0.00%</i>	<i>0.00%</i>

Table 18 : Actual FY 2018 State Gross Allocations and Hypothetical Allocations with 1984-Formula Factors Averaged for (1) FY 2016 - FY 2018; and (2) FY 2014 - FY 2016¹¹

Grantee	Actual Gross Allocation for FY 2018	FY 2018 Gross Alloc. with Annually Updated Avg. 1984-Formula Factors (FY 2016 - FY 2018)	FY 2018 Gross Alloc. with Triennially Updated Avg. 1984-Formula Factors (FY 2014 - FY 2016)	FY 2018 Annually Updated Avg. over Actual--Perc. Difference in Allocation	FY 2018 Triennially Updated Avg. over Actual--Perc. Difference in Allocation
Alabama	\$51,553,895	\$49,484,599	\$49,924,537	-4.01%	-3.16%
Alaska	\$18,779,204	\$18,779,204	\$18,779,204	0.00%	0.00%
Arizona	\$27,971,948	\$27,805,195	\$27,743,394	-0.60%	-0.82%
Arkansas	\$31,134,093	\$29,947,691	\$29,529,987	-3.81%	-5.15%
California	\$191,854,615	\$188,812,225	\$181,265,624	-1.59%	-5.52%
Colorado	\$53,174,674	\$53,671,305	\$51,459,376	0.93%	-3.23%
Connecticut	\$80,738,355	\$84,153,024	\$87,625,780	4.23%	8.53%
Delaware	\$13,653,457	\$13,365,335	\$13,714,473	-2.11%	0.45%
District of Columbia	\$11,148,804	\$11,148,804	\$11,148,804	0.00%	0.00%
Florida	\$91,519,613	\$90,974,025	\$90,771,822	-0.60%	-0.82%
Georgia	\$72,360,288	\$71,928,918	\$71,769,045	-0.60%	-0.82%
Hawaii	\$5,004,477	\$5,607,435	\$6,768,113	12.05%	35.24%
Idaho	\$21,465,212	\$21,465,212	\$21,465,212	0.00%	0.00%
Illinois	\$171,007,959	\$171,007,959	\$171,007,959	0.00%	0.00%
Indiana	\$77,427,600	\$77,427,600	\$77,427,600	0.00%	0.00%
Iowa	\$54,873,978	\$54,873,978	\$54,873,978	0.00%	0.00%
Kansas	\$36,216,862	\$35,567,232	\$33,671,842	-1.79%	-7.03%
Kentucky	\$53,571,684	\$52,024,090	\$50,338,587	-2.89%	-6.04%
Louisiana	\$48,120,020	\$46,370,680	\$44,111,732	-3.64%	-8.33%
Maine	\$40,264,690	\$40,974,885	\$41,008,995	1.76%	1.85%
Maryland	\$81,679,806	\$79,657,019	\$75,324,030	-2.48%	-7.78%

¹¹ The seven states with yellow-filled cells have percentage differences from FY 2018 actual—in the annual category or the triennial category—that fall in the top two most extreme of either category.

Grantee	Actual Gross Allocation for FY 2018	FY 2018 Gross Alloc. with Annually Updated Avg. 1984-Formula Factors (FY 2016 - FY 2018)	FY 2018 Gross Alloc. with Triennially Updated Avg. 1984-Formula Factors (FY 2014 - FY 2016)	FY 2018 Annually Updated Avg. over Actual--Perc. Difference in Allocation	FY 2018 Triennially Updated Avg. over Actual--Perc. Difference in Allocation
Massachusetts	\$147,723,157	\$155,939,599	\$156,382,305	5.56%	5.86%
Michigan	\$162,357,068	\$163,830,646	\$173,114,512	0.91%	6.63%
Minnesota	\$116,969,082	\$116,969,082	\$116,969,082	0.00%	0.00%
Mississippi	\$32,594,076	\$31,938,937	\$31,002,346	-2.01%	-4.88%
Missouri	\$81,052,432	\$79,729,776	\$78,012,597	-1.63%	-3.75%
Montana	\$25,177,329	\$25,177,329	\$25,177,329	0.00%	0.00%
Nebraska	\$31,531,258	\$31,531,258	\$31,531,258	0.00%	0.00%
Nevada	\$13,137,592	\$13,059,273	\$13,030,246	-0.60%	-0.82%
New Hampshire	\$27,994,431	\$29,212,072	\$27,696,012	4.35%	-1.07%
New Jersey	\$127,410,239	\$131,281,659	\$135,426,062	3.04%	6.29%
New Mexico	\$19,777,911	\$19,997,586	\$18,193,372	1.11%	-8.01%
New York	\$374,620,636	\$374,620,636	\$383,877,069	0.00%	2.47%
North Carolina	\$97,446,837	\$94,274,936	\$94,010,394	-3.26%	-3.53%
North Dakota	\$27,350,196	\$27,350,196	\$27,350,196	0.00%	0.00%
Ohio	\$154,050,894	\$153,119,909	\$156,161,995	-0.60%	1.37%
Oklahoma	\$41,885,993	\$40,594,713	\$39,663,855	-3.08%	-5.31%
Oregon	\$36,706,831	\$36,706,831	\$36,706,831	0.00%	0.00%
Pennsylvania	\$214,780,545	\$219,876,557	\$219,404,227	2.37%	2.15%
Rhode Island	\$26,903,933	\$27,385,402	\$27,719,586	1.79%	3.03%
South Carolina	\$43,107,127	\$42,006,139	\$42,147,155	-2.55%	-2.23%
South Dakota	\$22,213,149	\$22,213,149	\$22,213,149	0.00%	0.00%
Tennessee	\$63,972,029	\$62,462,031	\$60,895,318	-2.36%	-4.81%
Texas	\$152,258,101	\$151,350,425	\$151,014,027	-0.60%	-0.82%
Utah	\$25,572,386	\$25,572,386	\$25,572,386	0.00%	0.00%
Vermont	\$20,372,775	\$20,372,775	\$20,372,775	0.00%	0.00%
Virginia	\$91,754,433	\$90,621,957	\$88,867,496	-1.23%	-3.15%

Grantee	Actual Gross Allocation for FY 2018	FY 2018 Gross Alloc. with Annually Updated Avg. 1984- Formula Factors (FY 2016 - FY 2018)	FY 2018 Gross Alloc. with Triennially Updated Avg. 1984- Formula Factors (FY 2014 - FY 2016)	FY 2018 Annually Updated Avg. over Actual--Perc. Difference in Allocation	FY 2018 Triennially Updated Avg. over Actual--Perc. Difference in Allocation
Washington	\$60,377,680	\$60,377,680	\$60,377,680	0.00%	0.00%
West Virginia	\$30,982,475	\$30,982,475	\$30,982,475	0.00%	0.00%
Wisconsin	\$105,288,970	\$105,288,970	\$105,288,970	0.00%	0.00%
Wyoming	\$10,238,621	\$10,238,621	\$10,238,621	0.00%	0.00%
<i>Total</i>	<i>\$3,619,129,420</i>	<i>\$3,619,129,420</i>	<i>\$3,619,129,420</i>	<i>0.00%</i>	<i>0.00%</i>

Table 19 : Actual FY 2019 State Gross Allocations and Hypothetical Allocations with 1984-Formula Factors Averaged for FY 2017 - FY 2019 (Annually and Triennially)¹²

Grantee	Actual Gross Allocation for FY 2019	FY 2019 Gross Alloc. with Annually Updated Avg. 1984-Formula Factors (FY 2017 – FY 2019)	FY 2019 Gross Alloc. With Triennially Updated Avg. 1984-Formula Factors (FY 2017 - FY 2019) ¹³	FY 2019 Annually Updated Avg. over Actual--Perc. Difference in Allocation	FY 2019 Triennially Updated Avg. over Actual--Perc. Difference in Allocation
Alabama	\$54,194,918	\$51,334,218	\$51,334,218	-5.28%	-5.28%
Alaska	\$18,846,959	\$18,846,960	\$18,846,960	0.00%	0.00%
Arizona	\$29,578,632	\$29,200,156	\$29,200,156	-1.28%	-1.28%
Arkansas	\$30,550,546	\$30,182,674	\$30,182,674	-1.20%	-1.20%
California	\$205,096,658	\$193,498,176	\$193,498,176	-5.66%	-5.66%
Colorado	\$53,793,334	\$54,096,192	\$54,096,192	0.56%	0.56%
Connecticut	\$75,290,878	\$80,864,629	\$80,864,629	7.40%	7.40%
Delaware	\$12,954,982	\$13,210,380	\$13,210,380	1.97%	1.97%
District of Columbia	\$11,189,028	\$11,189,028	\$11,189,028	0.00%	0.00%
Florida	\$96,776,424	\$95,538,109	\$95,538,109	-1.28%	-1.28%
Georgia	\$76,516,601	\$75,537,524	\$75,537,524	-1.28%	-1.28%
Hawaii	\$5,010,952	\$5,210,838	\$5,210,838	3.99%	3.99%
Idaho	\$21,542,658	\$21,542,658	\$21,542,658	0.00%	0.00%
Illinois	\$172,194,747	\$171,173,958	\$171,173,958	-0.59%	-0.59%
Indiana	\$76,976,528	\$76,976,528	\$76,976,528	0.00%	0.00%
Iowa	\$54,554,297	\$54,554,297	\$54,554,297	0.00%	0.00%
Kansas	\$36,513,752	\$36,355,131	\$36,355,131	-0.43%	-0.43%
Kentucky	\$54,725,461	\$53,565,080	\$53,565,080	-2.12%	-2.12%

¹² The six states with yellow-filled cells have percentage differences from FY 2019 actual—in the annual category or the triennial category—that fall in the top two most extreme of either category.

¹³ We present FY 2019 Gross Alloc. with Triennially Updated Avg. 1984-Formula Factors (FY 2017 – FY 2019) even though it shows the same results as FY 2019 Gross Alloc. with Annually Updated Avg. 1984-Formula Factors (FY 2017 – FY 2019). This is to keep consistent with the presentation of Table 22, and Table 24, in which these results differ.

Grantee	Actual Gross Allocation for FY 2019	FY 2019 Gross Alloc. with Annually Updated Avg. 1984-Formula Factors (FY 2017 – FY 2019)	FY 2019 Gross Alloc. With Triennially Updated Avg. 1984-Formula Factors (FY 2017 - FY 2019)¹³	FY 2019 Annually Updated Avg. over Actual--Perc. Difference in Allocation	FY 2019 Triennially Updated Avg. over Actual--Perc. Difference in Allocation
Louisiana	\$50,898,734	\$48,174,587	\$48,174,587	-5.35%	-5.35%
Maine	\$39,793,122	\$40,052,691	\$40,052,691	0.65%	0.65%
Maryland	\$78,970,511	\$80,287,801	\$80,287,801	1.67%	1.67%
Massachusetts	\$136,483,517	\$148,129,341	\$148,129,341	8.53%	8.53%
Michigan	\$166,348,572	\$163,312,903	\$163,312,903	-1.82%	-1.82%
Minnesota	\$116,287,653	\$116,287,653	\$116,287,653	0.00%	0.00%
Mississippi	\$32,271,091	\$32,343,319	\$32,343,319	0.22%	0.22%
Missouri	\$80,216,571	\$80,268,244	\$80,268,244	0.06%	0.06%
Montana	\$25,268,170	\$25,268,170	\$25,268,170	0.00%	0.00%
Nebraska	\$31,645,024	\$31,645,024	\$31,645,024	0.00%	0.00%
Nevada	\$13,892,204	\$13,714,445	\$13,714,445	-1.28%	-1.28%
New Hampshire	\$27,278,597	\$28,710,382	\$28,710,382	5.25%	5.25%
New Jersey	\$124,026,908	\$127,284,014	\$127,284,014	2.63%	2.63%
New Mexico	\$21,002,821	\$20,273,051	\$20,273,051	-3.47%	-3.47%
New York	\$372,438,199	\$372,438,201	\$372,438,201	0.00%	0.00%
North Carolina	\$98,541,975	\$96,117,877	\$96,117,877	-2.46%	-2.46%
North Dakota	\$27,448,877	\$27,448,877	\$27,448,877	0.00%	0.00%
Ohio	\$154,948,345	\$154,596,747	\$154,596,747	-0.23%	-0.23%
Oklahoma	\$43,405,049	\$41,870,869	\$41,870,869	-3.53%	-3.53%
Oregon	\$36,492,988	\$36,492,987	\$36,492,987	0.00%	0.00%
Pennsylvania	\$206,487,864	\$216,368,911	\$216,368,911	4.79%	4.79%
Rhode Island	\$23,722,645	\$26,068,018	\$26,068,018	9.89%	9.89%
South Carolina	\$45,497,728	\$43,287,555	\$43,287,555	-4.86%	-4.86%
South Dakota	\$22,293,295	\$22,293,295	\$22,293,295	0.00%	0.00%
Tennessee	\$65,651,305	\$64,298,236	\$64,298,236	-2.06%	-2.06%
Texas	\$161,003,678	\$158,943,537	\$158,943,537	-1.28%	-1.28%

Grantee	Actual Gross Allocation for FY 2019	FY 2019 Gross Alloc. with Annually Updated Avg. 1984-Formula Factors (FY 2017 – FY 2019)	FY 2019 Gross Alloc. With Triennially Updated Avg. 1984-Formula Factors (FY 2017 - FY 2019)¹³	FY 2019 Annually Updated Avg. over Actual--Perc. Difference in Allocation	FY 2019 Triennially Updated Avg. over Actual--Perc. Difference in Allocation
Utah	\$25,664,652	\$25,664,652	\$25,664,652	0.00%	0.00%
Vermont	\$20,446,280	\$20,446,280	\$20,446,280	0.00%	0.00%
Virginia	\$91,298,337	\$91,125,348	\$91,125,348	-0.19%	-0.19%
Washington	\$60,083,420	\$60,025,936	\$60,025,936	-0.10%	-0.10%
West Virginia	\$31,094,260	\$31,094,260	\$31,094,260	0.00%	0.00%
Wisconsin	\$104,675,585	\$104,675,585	\$104,675,585	0.00%	0.00%
Wyoming	\$10,275,562	\$10,275,562	\$10,275,562	0.00%	0.00%
<i>Total</i>	<i>\$3,632,160,894</i>	<i>\$3,632,160,894</i>	<i>\$3,632,160,894</i>	<i>0.00%</i>	<i>0.00%</i>

**Table 20 : Actual FY 2020 State Gross Allocations and Hypothetical Allocations with 1984-Formula Factors
Averaged for (1) FY 2018 – FY 2020; and (2) FY 2017 – FY 2019¹⁴**

Grantee	Actual Gross Allocation for FY 2020	FY 2020 Gross Alloc. with Annually Updated Avg. 1984-Formula Factors (FY 2018 – FY 2020)	FY 2020 Gross Alloc. With Triennially Updated Avg. 1984-Formula Factors (FY 2017 - FY 2019)	FY 2020 Annually Updated Avg. over Actual--Perc. Difference in Allocation	FY 2020 Triennially Updated Avg. over Actual--Perc. Difference in Allocation
Alabama	\$78,062,645	\$71,394,367	\$65,309,983	-8.54%	-16.34%
Alaska	\$23,945,097	\$23,945,097	\$23,945,097	0.00%	0.00%
Arizona	\$47,228,480	\$45,233,778	\$42,576,759	-4.22%	-9.85%
Arkansas	\$41,315,029	\$40,061,051	\$38,353,909	-3.04%	-7.17%
California	\$255,821,300	\$253,652,240	\$245,758,897	-0.85%	-3.93%
Colorado	\$77,078,419	\$71,288,486	\$68,721,537	-7.51%	-10.84%
Connecticut	\$87,101,755	\$94,590,247	\$102,652,774	8.60%	17.85%
Delaware	\$16,627,267	\$16,838,646	\$16,789,425	1.27%	0.98%
District of Columbia	\$14,215,681	\$14,215,681	\$14,215,681	0.00%	0.00%
Florida	\$154,523,820	\$147,997,482	\$139,304,152	-4.22%	-9.85%
Georgia	\$122,174,776	\$117,014,704	\$110,141,294	-4.22%	-9.85%
Hawaii	\$6,133,960	\$6,285,914	\$6,623,054	2.48%	7.97%
Idaho	\$27,369,987	\$27,369,987	\$27,369,987	0.00%	0.00%
Illinois	\$215,741,187	\$214,959,151	\$217,282,877	-0.36%	0.71%
Indiana	\$95,018,252	\$93,550,449	\$92,745,944	-1.54%	-2.39%
Iowa	\$59,519,732	\$59,519,732	\$59,519,732	0.00%	0.00%
Kansas	\$47,563,750	\$46,769,611	\$46,177,389	-1.67%	-2.91%
Kentucky	\$70,324,813	\$69,423,575	\$68,004,212	-1.28%	-3.30%
Louisiana	\$69,751,592	\$65,571,099	\$61,268,092	-5.99%	-12.16%
Maine	\$43,415,020	\$47,148,863	\$50,841,536	8.60%	17.11%
Maryland	\$99,419,517	\$101,287,427	\$102,066,206	1.88%	2.66%

¹⁴ The five states with yellow-filled cells have percentage differences from FY 2020 actual—in the annual category or the triennial category—that fall in the top two most extreme of either category.

Grantee	Actual Gross Allocation for FY 2020	FY 2020 Gross Alloc. with Annually Updated Avg. 1984-Formula Factors (FY 2018 – FY 2020)	FY 2020 Gross Alloc. With Triennially Updated Avg. 1984-Formula Factors (FY 2017 - FY 2019)	FY 2020 Annually Updated Avg. over Actual--Perc. Difference in Allocation	FY 2020 Triennially Updated Avg. over Actual--Perc. Difference in Allocation
Massachusetts	\$159,588,177	\$173,031,462	\$188,226,148	8.42%	17.94%
Michigan	\$199,012,351	\$204,016,141	\$207,310,687	2.51%	4.17%
Minnesota	\$126,871,947	\$126,871,947	\$126,871,947	0.00%	0.00%
Mississippi	\$45,908,645	\$43,042,237	\$41,089,073	-6.24%	-10.50%
Missouri	\$103,497,842	\$102,981,756	\$101,985,170	-0.50%	-1.46%
Montana	\$32,103,255	\$32,103,255	\$32,103,255	0.00%	0.00%
Nebraska	\$40,205,060	\$40,205,060	\$40,205,060	0.00%	0.00%
Nevada	\$22,181,813	\$21,244,960	\$19,997,037	-4.22%	-9.85%
New Hampshire	\$34,657,508	\$34,657,508	\$36,486,426	0.00%	5.28%
New Jersey	\$150,959,729	\$156,628,268	\$161,669,883	3.76%	7.09%
New Mexico	\$28,564,886	\$26,913,811	\$25,737,073	-5.78%	-9.90%
New York	\$406,336,858	\$434,940,658	\$464,094,455	7.04%	14.21%
North Carolina	\$130,949,602	\$127,149,214	\$122,198,611	-2.90%	-6.68%
North Dakota	\$34,873,848	\$34,873,848	\$34,873,848	0.00%	0.00%
Ohio	\$194,302,594	\$195,660,197	\$196,265,630	0.70%	1.01%
Oklahoma	\$62,488,679	\$57,397,109	\$53,243,019	-8.15%	-14.80%
Oregon	\$48,615,204	\$45,362,631	\$43,212,924	-6.69%	-11.11%
Pennsylvania	\$237,892,074	\$256,749,414	\$274,771,532	7.93%	15.50%
Rhode Island	\$30,139,664	\$30,139,664	\$33,087,354	0.00%	9.78%
South Carolina	\$67,296,318	\$60,536,373	\$55,085,499	-10.05%	-18.14%
South Dakota	\$28,323,671	\$28,323,671	\$28,323,671	0.00%	0.00%
Tennessee	\$90,485,162	\$85,516,389	\$81,708,993	-5.49%	-9.70%
Texas	\$257,076,082	\$246,218,431	\$231,755,632	-4.22%	-9.85%
Utah	\$32,606,988	\$32,606,988	\$32,606,988	0.00%	0.00%
Vermont	\$25,977,036	\$25,977,036	\$25,977,036	0.00%	0.00%
Virginia	\$118,750,243	\$117,406,376	\$115,802,665	-1.13%	-2.48%

Grantee	Actual Gross Allocation for FY 2020	FY 2020 Gross Alloc. with Annually Updated Avg. 1984-Formula Factors (FY 2018 – FY 2020)	FY 2020 Gross Alloc. With Triennially Updated Avg. 1984-Formula Factors (FY 2017 - FY 2019)	FY 2020 Annually Updated Avg. over Actual--Perc. Difference in Allocation	FY 2020 Triennially Updated Avg. over Actual--Perc. Difference in Allocation
Washington	\$85,348,700	\$78,694,024	\$72,998,728	-7.80%	-14.47%
West Virginia	\$39,505,314	\$39,505,314	\$39,505,314	0.00%	0.00%
Wisconsin	\$114,202,970	\$114,202,970	\$114,212,104	0.00%	0.01%
Wyoming	\$13,055,121	\$13,055,121	\$13,055,121	0.00%	0.00%
<i>Total</i>	<i>\$4,614,129,420</i>	<i>\$4,614,129,420</i>	<i>\$4,614,129,420</i>	<i>0.00%</i>	<i>0.00%</i>

Approach 2: Revisions to LIHEE Plus Other Fiscal Year Conditions and Three-Year LIHEE Average Periods Ending Two Years Before the Target year

Approach 2 uses the three-year average of estimated LIHEE for the period that ends two years before the year of the respective update. This contrasts with Approach 1, which uses the period ending on the year of the respective update. Thus, the averaging period for an annual update applicable to FY 2020 is FY 2016 through FY 2018 and the period for the triennial update applicable to the same year is FY 2015 through FY 2017. See Table 21 for the FY 2020 allocations that result from each LIHEE-update method (annual and triennial) and for comparisons with the actual state allocations. See Tables A1 through A4 of APPENDIX 1 for the FY 2016 through FY 2019 allocations that result from each method under this approach.

**Table 21 : Actual FY 2020 State Gross Allocations and Hypothetical Allocations with 1984-Formula Factors
Averaged for (1) FY 2016 – FY 2018; and (2) FY 2015 – FY 2017¹⁵**

Grantee	Actual Gross Allocation for FY 2020	FY 2020 Gross Alloc. with Annually Updated Avg. 1984-Formula Factors (FY 2016 - FY 2018)	FY 2020 Gross Alloc. with Triennially Updated Avg. 1984-Formula Factors (FY 2015 - FY 2017)	FY 2020 Annually Updated Avg. over Actual--Perc. Difference in Allocation	FY 2020 Triennially Updated Avg. over Actual--Perc. Difference in Allocation
Alabama	\$78,062,645	\$63,190,853	\$61,682,413	-19.05%	-20.98%
Alaska	\$23,945,097	\$23,945,097	\$23,945,097	0.00%	0.00%
Arizona	\$47,228,480	\$41,036,000	\$39,873,751	-13.11%	-15.57%
Arkansas	\$41,315,029	\$38,199,825	\$37,280,560	-7.54%	-9.77%
California	\$255,821,300	\$240,689,617	\$239,077,822	-5.91%	-6.54%
Colorado	\$77,078,419	\$68,425,508	\$68,068,049	-11.23%	-11.69%
Connecticut	\$87,101,755	\$107,261,308	\$112,170,120	23.14%	28.78%
Delaware	\$16,627,267	\$17,052,690	\$17,010,200	2.56%	2.30%
District of Columbia	\$14,215,681	\$14,215,681	\$14,215,681	0.00%	0.00%
Florida	\$154,523,820	\$134,263,042	\$130,460,351	-13.11%	-15.57%
Georgia	\$122,174,776	\$106,155,524	\$103,148,914	-13.11%	-15.57%
Hawaii	\$6,133,960	\$7,157,146	\$7,933,991	16.68%	29.35%
Idaho	\$27,369,987	\$27,369,987	\$27,369,987	0.00%	0.00%
Illinois	\$215,741,187	\$216,017,373	\$215,296,240	0.13%	-0.21%
Indiana	\$95,018,252	\$92,800,784	\$91,927,350	-2.33%	-3.25%
Iowa	\$59,519,732	\$59,519,732	\$59,519,732	0.00%	0.00%
Kansas	\$47,563,750	\$45,343,703	\$44,058,795	-4.67%	-7.37%
Kentucky	\$70,324,813	\$66,287,368	\$64,162,668	-5.74%	-8.76%
Louisiana	\$69,751,592	\$59,191,327	\$56,389,879	-15.14%	-19.16%
Maine	\$43,415,020	\$52,205,714	\$52,490,864	20.25%	20.90%
Maryland	\$99,419,517	\$101,650,334	\$98,560,963	2.24%	-0.86%

¹⁵ The five states with yellow-filled cells have percentage differences from FY 2020 actual—in the annual category or the triennial category—that fall in the top two most extreme of either category.

Grantee	Actual Gross Allocation for FY 2020	FY 2020 Gross Alloc. with Annually Updated Avg. 1984-Formula Factors (FY 2016 - FY 2018)	FY 2020 Gross Alloc. with Triennially Updated Avg. 1984-Formula Factors (FY 2015 - FY 2017)	FY 2020 Annually Updated Avg. over Actual--Perc. Difference in Allocation	FY 2020 Triennially Updated Avg. over Actual--Perc. Difference in Allocation
Massachusetts	\$159,588,177	\$198,662,955	\$202,317,129	24.48%	26.77%
Michigan	\$199,012,351	\$208,715,215	\$214,441,913	4.88%	7.75%
Minnesota	\$126,871,947	\$126,871,947	\$126,871,947	0.00%	0.00%
Mississippi	\$45,908,645	\$40,727,956	\$39,275,634	-11.28%	-14.45%
Missouri	\$103,497,842	\$101,664,979	\$100,849,129	-1.77%	-2.56%
Montana	\$32,103,255	\$32,103,255	\$32,103,255	0.00%	0.00%
Nebraska	\$40,205,060	\$40,205,060	\$40,205,060	0.00%	0.00%
Nevada	\$22,181,813	\$19,273,389	\$18,727,514	-13.11%	-15.57%
New Hampshire	\$34,657,508	\$37,212,833	\$37,009,340	7.37%	6.79%
New Jersey	\$150,959,729	\$167,380,428	\$170,761,763	10.88%	13.12%
New Mexico	\$28,564,886	\$25,481,955	\$25,255,074	-10.79%	-11.59%
New York	\$406,336,858	\$473,873,105	\$492,113,064	16.62%	21.11%
North Carolina	\$130,949,602	\$120,305,961	\$118,637,572	-8.13%	-9.40%
North Dakota	\$34,873,848	\$34,873,848	\$34,873,848	0.00%	0.00%
Ohio	\$194,302,594	\$195,074,009	\$193,895,780	0.40%	-0.21%
Oklahoma	\$62,488,679	\$51,811,852	\$50,705,033	-17.09%	-18.86%
Oregon	\$48,615,204	\$43,429,163	\$44,133,865	-10.67%	-9.22%
Pennsylvania	\$237,892,074	\$280,258,782	\$282,765,743	17.81%	18.86%
Rhode Island	\$30,139,664	\$34,902,848	\$36,001,074	15.80%	19.45%
South Carolina	\$67,296,318	\$53,655,824	\$52,712,313	-20.27%	-21.67%
South Dakota	\$28,323,671	\$28,323,671	\$28,323,671	0.00%	0.00%
Tennessee	\$90,485,162	\$79,667,982	\$77,817,200	-11.95%	-14.00%
Texas	\$257,076,082	\$223,368,905	\$217,042,497	-13.11%	-15.57%
Utah	\$32,606,988	\$32,606,988	\$32,606,988	0.00%	0.00%
Vermont	\$25,977,036	\$25,977,036	\$25,977,036	0.00%	0.00%
Virginia	\$118,750,243	\$115,601,949	\$113,974,175	-2.65%	-4.02%

Grantee	Actual Gross Allocation for FY 2020	FY 2020 Gross Alloc. with Annually Updated Avg. 1984-Formula Factors (FY 2016 - FY 2018)	FY 2020 Gross Alloc. with Triennially Updated Avg. 1984-Formula Factors (FY 2015 - FY 2017)	FY 2020 Annually Updated Avg. over Actual--Perc. Difference in Allocation	FY 2020 Triennially Updated Avg. over Actual--Perc. Difference in Allocation
Washington	\$85,348,700	\$72,248,721	\$72,502,302	-15.35%	-15.05%
West Virginia	\$39,505,314	\$39,505,314	\$39,505,314	0.00%	0.00%
Wisconsin	\$114,202,970	\$115,309,756	\$115,025,639	0.97%	0.72%
Wyoming	\$13,055,121	\$13,055,121	\$13,055,121	0.00%	0.00%
<i>Total</i>	<i>\$4,614,129,420</i>	<i>\$4,614,129,420</i>	<i>\$4,614,129,420</i>	<i>0.00%</i>	<i>0.00%</i>

Approach 3: Revisions to LIHEE Only and Update Timespans Ending Two-Years Prior

Approach 3 updates only the LIHEE and uses top-line actuals and the calculation methodology applicable to FY 2018. See Table 15 for a summary of those actuals and methodology. This contrasts with Approach 1 and Approach 2, each of which updated the LIHEE and the other fiscal year parameters that varied from year-to-year.

In addition, Approach 3 uses the three-year average of estimated LIHEE for the periods that end two years before the year of the respective update. This accords with Approach 2 but contrasts with Approach 1, which used the period ending on the year of the respective update. Thus, the averaging period for an annual update applicable to FY 2020 is FY 2016 through FY 2018 and the period for the triennial update applicable to the same year is FY 2015 through FY 2017. See Table 22 for the FY 2020 allocations that result from each LIHEE-update method (i.e., same year, annual and triennial) and for comparisons with the actual state allocations. See Tables A5 through A8 of APPENDIX 1 for the FY 2016 through FY 2019 allocations that result from each method under this approach.

Table 22 : FY 2020 Hypothetical State Gross Allocations with 1984-Formula Factors (1) Unchanged from FY 2020; (2) Averaged for FY 2016 - FY 2018; and (3) Averaged for FY 2015 - FY 2017¹⁶

Grantee	Hypothetical Gross Allocation for FY 2020-Using FY 2018 Top-Lines and FY 2020 1984-Formula Factors	FY 2020 Gross Alloc. with Annually Updated Average 1984-Formula Factors (FY 2016 - FY 2018)	FY 2020 Gross Alloc. with Triennially Updated Average 1984-Formula Factors (FY 2015 - FY 2017)	FY 2020 Annually Updated Avg. over Actual--Perc. Difference in Allocation	FY 2020 Triennially Updated Avg. over Actual--Perc. Difference in Allocation
Alabama	\$57,514,398	\$49,484,599	\$48,308,388	-13.96%	-16.01%
Alaska	\$18,779,204	\$18,779,204	\$18,779,204	0.00%	0.00%
Arizona	\$27,814,647	\$27,805,195	\$27,047,459	-0.03%	-2.76%
Arkansas	\$32,384,398	\$29,947,691	\$29,230,891	-7.52%	-9.74%
California	\$200,664,752	\$188,812,225	\$187,555,423	-5.91%	-6.53%
Colorado	\$60,516,109	\$53,671,305	\$53,392,575	-11.31%	-11.77%
Connecticut	\$68,330,493	\$84,153,024	\$87,980,686	23.16%	28.76%
Delaware	\$13,036,843	\$13,365,335	\$13,332,203	2.52%	2.27%
District of Columbia	\$11,148,804	\$11,148,804	\$11,148,804	0.00%	0.00%
Florida	\$91,004,951	\$90,974,025	\$88,494,838	-0.03%	-2.76%
Georgia	\$71,953,369	\$71,928,918	\$69,968,740	-0.03%	-2.76%
Hawaii	\$4,810,858	\$5,607,435	\$6,213,185	16.56%	29.15%
Idaho	\$21,465,212	\$21,465,212	\$21,465,212	0.00%	0.00%
Illinois	\$171,007,959	\$171,007,959	\$171,007,959	0.00%	0.00%
Indiana	\$77,427,600	\$77,427,600	\$77,427,600	0.00%	0.00%
Iowa	\$54,873,978	\$54,873,978	\$54,873,978	0.00%	0.00%
Kansas	\$37,308,255	\$35,567,232	\$34,565,321	-4.67%	-7.35%
Kentucky	\$55,188,185	\$52,024,090	\$50,367,348	-5.73%	-8.74%
Louisiana	\$54,615,284	\$46,370,680	\$44,186,241	-15.10%	-19.10%
Maine	\$40,026,304	\$40,974,885	\$41,197,232	2.37%	2.93%

¹⁶ The five states with yellow-filled cells have percentage differences from single-year FY 2020 hypothetical gross allocations—in the annual category or the triennial category—that fall in the top two most extreme of either category.

Grantee	Hypothetical Gross Allocation for FY 2020-Using FY 2018 Top-Lines and FY 2020 1984-Formula Factors	FY 2020 Gross Alloc. with Annually Updated Average 1984-Formula Factors (FY 2016 - FY 2018)	FY 2020 Gross Alloc. with Triennially Updated Average 1984-Formula Factors (FY 2015 - FY 2017)	FY 2020 Annually Updated Avg. over Actual--Perc. Difference in Allocation	FY 2020 Triennially Updated Avg. over Actual--Perc. Difference in Allocation
Maryland	\$77,936,182	\$79,657,019	\$77,248,071	2.21%	-0.88%
Massachusetts	\$125,264,771	\$155,939,599	\$158,788,953	24.49%	26.76%
Michigan	\$162,357,068	\$163,830,646	\$168,296,057	0.91%	3.66%
Minnesota	\$116,969,082	\$116,969,082	\$116,969,082	0.00%	0.00%
Mississippi	\$35,987,154	\$31,938,937	\$30,806,484	-11.25%	-14.40%
Missouri	\$81,158,957	\$79,729,776	\$79,093,615	-1.76%	-2.54%
Montana	\$25,177,329	\$25,177,329	\$25,177,329	0.00%	0.00%
Nebraska	\$31,531,258	\$31,531,258	\$31,531,258	0.00%	0.00%
Nevada	\$13,063,712	\$13,059,273	\$12,703,387	-0.03%	-2.76%
New Hampshire	\$27,180,530	\$29,212,072	\$29,053,398	7.47%	6.89%
New Jersey	\$118,477,567	\$131,281,659	\$133,918,266	10.81%	13.03%
New Mexico	\$22,407,555	\$19,997,586	\$19,820,675	-10.76%	-11.54%
New York	\$374,620,636	\$374,620,636	\$386,228,616	0.00%	3.10%
North Carolina	\$102,596,358	\$94,274,936	\$92,974,004	-8.11%	-9.38%
North Dakota	\$27,350,196	\$27,350,196	\$27,350,196	0.00%	0.00%
Ohio	\$152,518,395	\$153,119,909	\$152,201,181	0.39%	-0.21%
Oklahoma	\$48,929,178	\$40,594,713	\$39,731,668	-17.03%	-18.80%
Oregon	\$38,153,005	\$36,706,831	\$36,706,831	-3.79%	-3.79%
Pennsylvania	\$201,226,548	\$219,876,557	\$221,831,368	9.27%	10.24%
Rhode Island	\$23,637,361	\$27,385,402	\$28,241,747	15.86%	19.48%
South Carolina	\$45,678,154	\$42,006,139	\$41,270,433	-8.04%	-9.65%
South Dakota	\$22,213,149	\$22,213,149	\$22,213,149	0.00%	0.00%
Tennessee	\$70,912,851	\$62,462,031	\$61,018,877	-11.92%	-13.95%
Texas	\$151,401,876	\$151,350,425	\$147,225,886	-0.03%	-2.76%
Utah	\$25,572,386	\$25,572,386	\$25,572,386	0.00%	0.00%

Grantee	Hypothetical Gross Allocation for FY 2020-Using FY 2018 Top-Lines and FY 2020 1984-Formula Factors	FY 2020 Gross Alloc. with Annually Updated Average 1984-Formula Factors (FY 2016 - FY 2018)	FY 2020 Gross Alloc. with Triennially Updated Average 1984-Formula Factors (FY 2015 - FY 2017)	FY 2020 Annually Updated Avg. over Actual--Perc. Difference in Allocation	FY 2020 Triennially Updated Avg. over Actual--Perc. Difference in Allocation
Vermont	\$20,372,775	\$20,372,775	\$20,372,775	0.00%	0.00%
Virginia	\$93,099,567	\$90,621,957	\$89,352,695	-2.66%	-4.02%
Washington	\$66,954,151	\$60,377,680	\$60,377,680	-9.82%	-9.82%
West Virginia	\$30,982,475	\$30,982,475	\$30,982,475	0.00%	0.00%
Wisconsin	\$105,288,970	\$105,288,970	\$105,288,970	0.00%	0.00%
Wyoming	\$10,238,621	\$10,238,621	\$10,238,621	0.00%	0.00%
<i>Total</i>	<i>\$3,619,129,420</i>	<i>\$3,619,129,420</i>	<i>\$3,619,129,420</i>	<i>0.00%</i>	<i>0.00%</i>

SECTION VII: EXTENT TO WHICH IT IS FEASIBLE FOR ACF TO PREDICT FUTURE STATE ALLOCATIONS NO LESS THAN SIX MONTHS PRIOR TO A NEW FISCAL YEAR

It is possible for ACF to estimate state LIHEAP funding allocations no less than six months prior to a new federal fiscal year if ACF changes which year's data it uses for some of the 1984-Formula updates. For example, the data on wood expenditures from the State Energy Data System (SEDS) produced by the Energy Information Administration (EIA) are not available six months prior to the new Federal Fiscal Year (FFY). Therefore, ACF would have to use the prior year's SEDS data, which would be for a timeframe three years before the new FFY. This would only make the data one year older than what ACF currently uses. Additionally, as wood expenditures only represent approximately one to two percent of total low-income home energy expenditures in a given year, ACF believes it is a relatively minor impact to use the SEDS data that is one year older.

Section 2604(a)(1)(4) of the LIHEAP statute (42 U.S.C. § 8623(a)(1)(4)) specifies that in determining each state's share of low-income home energy expenditures, the "Secretary shall determine...on the basis of the most recent satisfactory data available to the Secretary." In determining the "most recent satisfactory data available," the SEDS data on fuel prices and consumption have been a limiting factor for ACF because ACF lacks control over the timing and method by which EIA collects, processes, analyzes, and publishes the data.

ACF typically develops the updated 1984-Formula percentages between June and August preceding the FFY in which those percentages will be used to allocate LIHEAP funding. That is because most currently available final SEDS data are typically published in June. Those SEDS data represent a time period from two years prior. For example, the 2019 SEDS is the most currently available data as of June 2021, when ACF would update the 1984-Formula percentages for use in the FY 2022 funding allocation formula.

If ACF were to move up the development of the updated 1984-Formula percentages to April or earlier (no less than six months prior to a new fiscal year), the most recent SEDS available for all relevant fuel types used in the calculations would be from three years prior. For example, the 2018 SEDS could have been used in April 2021 to update the upcoming FY 2022 funding formula data

Table 22 below provides the usual publication schedule for each data source used in developing the updated 1984-Formula percentages in the LIHEAP funding formula.

Table 23 : Usual Publication Schedule for Data Sources Used in Developing LIHEAP 1984-Formula Percentages

Data Source	Description of Use	Usual Publication Schedule
State Energy Data System (SEDS)	Residential fuel price and consumption data	<p>Data are released on a rolling basis for each fuel type as the modeling is completed. Final data for all fuel types typically are published in June two years later (e.g., the final 2019 SEDS likely will be published in June 2021).</p> <p>Electric: December, following year (e.g., 2019 SEDS electric data released in December 2020)</p> <p>Natural Gas: January, two years later (e.g., 2019 SEDS natural gas data released in January 2021)</p> <p>Fuel Oil: February, two years later (e.g., 2019 SEDS fuel oil data released in February 2021)</p> <p>Propane: March, two years later (e.g., 2019 SEDS propane released in March 2021)</p> <p>Kerosene: February, two years later (e.g., 2019 SEDS kerosene data released in February 2021)</p> <p>Wood: May, two years later (e.g., 2019 SEDS wood data planned release in May 2021)</p> <p>Coal: N/A (residential coal price and consumption data series discontinued)</p>
Residential Energy Consumption Survey (RECS)	Adjustment factors for share of fuel usage for home heating and cooling, low-income usage compared to usage of all households, and multifamily building adjustment factors	Periodic; the RECS is conducted approximately every 4-6 years and the publication of the public use data varies with each iteration of the survey.
American Community Survey (ACS) Public Use Microdata (PUMS) 5-year file	Population estimates by heating fuel type and low-income status	December, following year (e.g., 2019 5-year ACS PUMS file released in December 2020)
Annual Heating Degree Days and Cooling Degree Days	Weather normalization for residential fuel consumption	Monthly, with a one-month lag, from two sources at the National Oceanographic and Atmospheric Administration (NOAA): (1) the National Climatic Data Center ; and (2) the National Centers for Environmental Information's Climate Data Online Search .
Long-Term (30-Year) Climate Normal Heating Degree Days and Cooling Degree Days	Weather normalization for residential fuel consumption	The National Climatic Data Center has not updated the population-weighted, statewide, long-term climate normal HDDs and CDDs since the period covering 1971-2000.

While the timing of the data availability is the biggest factor in when ACF can update the LIHEAP funding formula, ACF also notes that its process for updating and calculating the funding formula is labor and time intensive. The LIHEAP formula process is not automated, meaning it is not calculated through a system. ACF has previously explored on more than one occasion the feasibility of automating the formula into the grant awarding system. However, the programmers for that system advised it could not be done, meaning the grant awards process for over 200 grantees is also done manually. In FY 2020, ACF expanded its exploration of other system options for automating the LIHEAP funding formula and identified through market research the possibility of at least one commercial software platform (different from the ACF awarding system) that could potentially be customized for this purpose. In FY 2021, ACF continued weighing budget availability for pursuing such an automation project. This project would take approximately one to two years to procure, develop, and test. That testing would include the impact, if any, to the time needed to update and run LIHEAP formula calculations. However, the system would permit ACF more flexibility to train more staff assisting with the formula calculations.

ACF concludes that the LIHEAP allocation formula retains a lot of year-to-year volatility because of the updates to the LIHEE, given the relatively small impacts of these revisions. In some cases, it may be infeasible to reduce this volatility. However, it is feasible for ACF to help Congress anticipate large changes by using low income home energy expenditure data that is three years old instead of two years old.

Table 24 demonstrates the relative impacts, across all five years, of the yearlong lag in SEDS data. It shows actual state gross allocations and state gross allocations recalculated using the 1984-Formula factors from the previous year. These impacts are relatively small, falling between +/- 6.5 percent from actual and clustering 90 percent of grantees between +/- five percent. For these impacts across each year see Table A8 through A12 of APPENDIX 2.

Table 24 : FY 2016 through FY 2020 Actual State Gross Allocations Compared with Hypothetical Gross Allocations That Use the LIHEAP 1984-Formula Factors from the Previous Year ¹⁷

State	Total FY 2016 thru FY 2020 Gross Allocations—Actual	Total FY 2016 thru FY 2020 Gross Allocations--Using 1984-Formula Factors from the Previous Year ¹⁸	Percent Changes in Allocations with Previous Year Factors over Actual Allocations
Alabama	\$272,851,678	\$257,585,959	-5.5949%
Alaska	\$96,745,884	\$96,745,884	0.0000%
Arizona	\$147,874,034	\$144,001,925	-2.6185%
Arkansas	\$157,985,225	\$153,927,593	-2.5684%
California	\$1,003,358,021	\$991,023,727	-1.2293%
Colorado	\$284,633,507	\$274,825,658	-3.4458%
Connecticut	\$403,295,183	\$428,844,428	6.3351%
Delaware	\$67,976,354	\$68,397,145	0.6190%
District of Columbia	\$57,435,919	\$57,435,919	0.0000%
Florida	\$483,819,516	\$471,150,607	-2.6185%
Georgia	\$382,533,517	\$372,516,803	-2.6185%
Hawaii	\$26,830,389	\$28,048,698	4.5408%
Idaho	\$110,583,541	\$110,583,541	0.0000%
Illinois	\$894,350,603	\$898,336,717	0.4457%
Indiana	\$401,275,123	\$398,856,876	-0.6026%
Iowa	\$276,568,083	\$276,568,083	0.0000%
Kansas	\$186,189,962	\$181,954,812	-2.2746%
Kentucky	\$274,521,843	\$267,505,366	-2.5559%
Louisiana	\$253,980,692	\$239,910,956	-5.5397%
Maine	\$201,973,316	\$208,449,345	3.2064%
Maryland	\$407,174,045	\$404,097,466	-0.7556%
Massachusetts	\$741,184,329	\$776,977,214	4.8291%
Michigan	\$846,186,225	\$856,613,083	1.2322%
Minnesota	\$589,531,066	\$589,531,066	0.0000%
Mississippi	\$169,897,339	\$162,147,975	-4.5612%
Missouri	\$412,490,705	\$410,040,466	-0.5940%
Montana	\$129,707,465	\$129,707,465	0.0000%
Nebraska	\$162,441,359	\$162,441,359	0.0000%

¹⁷ The six states with yellow-filled cells have percentage differences from the five-year actuals that fall in the top three most extreme (positive and negative).

¹⁸ The Total FY 2016 thru FY 2020 Gross Allocations--Using 1984-Formula Factors from the Previous Year shows total allocations using the 1984-Formula factors from the previous fiscal year. It doesn't recalculate these factors to account for the additional yearlong lag in Wood data. We believe this additional lag to have an insignificant impact, due to that fuel's low share of total low-income home energy expenditures.

State	Total FY 2016 thru FY 2020 Gross Allocations—Actual	Total FY 2016 thru FY 2020 Gross Allocations- -Using 1984-Formula Factors from the Previous Year ¹⁸	Percent Changes in Allocations with Previous Year Factors over Actual Allocations
Nevada	\$69,452,036	\$67,633,419	-2.6185%
New Hampshire	\$145,151,741	\$145,776,990	0.4308%
New Jersey	\$650,886,793	\$669,074,505	2.7943%
New Mexico	\$106,924,663	\$103,381,037	-3.3141%
New York	\$1,888,110,075	\$1,941,828,301	2.8451%
North Carolina	\$500,485,496	\$489,807,162	-2.1336%
North Dakota	\$140,901,547	\$140,901,547	0.0000%
Ohio	\$800,045,649	\$801,809,461	0.2205%
Oklahoma	\$222,560,897	\$211,256,721	-5.0791%
Oregon	\$193,805,281	\$188,958,112	-2.5011%
Pennsylvania	\$1,073,759,767	\$1,113,675,600	3.7174%
Rhode Island	\$132,341,031	\$138,090,330	4.3443%
South Carolina	\$226,642,082	\$212,776,499	-6.1178%
South Dakota	\$114,436,732	\$114,436,732	0.0000%
Tennessee	\$335,538,501	\$322,778,600	-3.8028%
Texas	\$804,914,250	\$783,837,411	-2.6185%
Utah	\$131,742,703	\$131,742,703	0.0000%
Vermont	\$104,955,571	\$104,955,571	0.0000%
Virginia	\$470,223,634	\$464,468,106	-1.2240%
Washington	\$324,224,439	\$315,082,868	-2.8195%
West Virginia	\$159,614,160	\$159,614,160	0.0000%
Wisconsin	\$530,662,612	\$530,662,612	0.0000%
Wyoming	\$52,746,882	\$52,746,882	0.0000%
<i>Total</i>	<i>\$18,623,521,465</i>	<i>\$18,623,521,465</i>	<i>0.0000%</i>

SECTION VIII: EXTENT TO WHICH IT IS FEASIBLE TO USE ENERGY COST PROJECTIONS INSTEAD OF ACTUAL ENERGY PRICE DATA

The Committee requested ACF indicate the extent to which “it is possible to use energy cost projections, instead of currently used energy price data”. ACF advises against relying on forecast (projected) data about potential future fuel prices and consumption for purposes of the LIHEAP funding distribution formula.

ACF previously provided an assessment of available federal data, including forecast data, in Section III of the November 17, 2020, report released by ACF titled: *An Assessment of the Program's Formula and Allocations of Funding Among States*. Table 10 on page 45 of that report outlines the advantages and disadvantages of forecast data produced by the federal EIA based on research and conversations ACF conducted with EIA staff in the spring of 2020. ACF concluded and still believes that none of these forecast data are feasible or prudent for use in the LIHEAP funding formula.

The key insight that ACF learned is that EIA has not validated its forecast data against actual data. Therefore, there is an unknown risk of inaccuracy in relying on such future prognostications. In addition to that overarching risk, the following are highlights of other key disadvantages ACF identified for particular EIA forecast data sources:

The *Short-Term Energy Outlook (STEO)* lacks:

1. state level data for Natural Gas, Propane, and Electricity; and
2. stable availability of price and consumption projections for certain fuels.

The *Winter Fuels Outlook (WFO)* lacks:

1. state-level data for any fuel type;
2. forecasts for any fuel other than Electricity, Fuel Oil, Natural Gas, or Propane; and
3. publication timing needed for improving the availability of the updated LIHEAP funding formula (this data would result in a data lag of at least one year lag for use in the formula, which is not a significance improvement over the current two year data lag for actual price data from a different data set, SEDS, from the same data source, EIA).

The *Summer Fuels Outlook (SFO)* lacks:

1. state-level data for any fuel; and
2. publication timing needed for improving the availability of the updated LIHEAP funding formula (this data would result in a data lag of at least one year lag for use in the formula, which is not a significance improvement over the current two year data lag for actual price data from a different data set, SEDS, from the same data source, EIA).

ACF believes that none of these outlooks is reliable for purposes of distributing billions of dollars in LIHEAP grant funding. The primary reasons against relying on these forecast data are that (1) the reliability of these forecast data have not been validated by the data source; (2) the forecasts do not cover state-level data for all, or even most, fuel source types, and (3) the publication timing of these data would still create at least a one year time lag for inclusion in the

LIHEAP formula, which is not a significant improvement of the current data lag with actual price data from a different data set (SEDS) from the same data source (EIA). Additionally, ACF notes that its current methodology for calculating the estimate low income home energy expenditures data for each state, as statutorily required for executing the 1984-Formula, also reflects adjustments ACF makes to smooth out the impact of extreme weather that occurs in the same year as the fuel consumption and cost data. ACF does this by accounting for heating degree day and cooling degree day data from the National Oceanic and Atmospheric Administration (NOAA) for that year and normalizing it with long-term (30-year historic) weather data.

CONCLUSION

ACF concludes that for the five year period identified by the Committee, the LIHEAP allocation formula displayed year-to-year volatility, including some large changes between four percent and 18 percent for a small handful of states. The main driver of such changes is a hybrid formula approach from the appropriation legislation that year that also appropriated a sum well below the statutory trigger of \$1.975 billion for the 1984-Formula. The lack of at least \$1.975 billion being appropriated for the 1984-Formula resulted in ACF having to take an extra step of adding \$1.975 billion to the 1984-Formula amount for a given year in order to execute the 1984-Formula and then deducting off the \$1.975 billion just before the last step of applying each state's 1984-Formula method to the amount actually available under the 1984-Formula that year. As Section IV illustrated, the states with the largest increases and decreases in funding compared to the prior year during the timeframe examined typically had a different 1984-Formula method that would control its 1984-Formula amount depending on the before-and-after effect of the \$1.975 billion deduction method necessary to execute the 1984-Formula when Congress appropriates less than \$1.975 billion for that formula.

Another key driver is the interplay of the 1984-Formula allocation percentages—which ACF updates annually—and the Hold Harmless provisions of the 1984-Formula that are statutorily required. The provisions prevented approximately 11 states from receiving any funding from the 1984-Formula in 2016 and 2017 because those states were held to their ceiling in order to fund the other, smaller states that were held harmless those years.

From 2017 through 2020, however, the number of states that received \$0 from the 1984-Formula portion of the hybrid formula those years declined each year until only five states received \$0 in 1984-Formula funding in 2020. It appears that decline is directly related to the increase in funding appropriated by Congress towards the 1984-Formula. That portion of the funding remained steady at \$491 million between 2016 and 2017, but increased to \$678 million in 2018, \$716 million in 2019, and \$1.4 million in 2020.

Another driver of change from year-to-year is that the dynamic 1984-Formula portion of the overall funding formula is based on estimates of each state's Low Income Home Energy Expenditures (LIHEE), which change from year-to-year. ACF derives those estimates by obtaining data from the federal Energy Information Administration (EIA) on fuel prices and low income consumption by fuel type. These data account for both heating and cooling costs for low

income households. ACF adjusts the data with heating degree day and cooling degree day data from the National Oceanic and Atmospheric Administration to minimize the impact of extreme weather events for the same year as the fuel cost data, when compared to NOAA's long-term weather data.

In some cases, it may be infeasible to reduce this volatility because of the nature of changing low income home energy expenditures. However, it is feasible for Congress to eliminate the volatility caused by the 1984-Formula deduction if Congress ensures that a minimum of \$1.975 billion is appropriated for the 1984-Formula in any year that Congress invokes that formula in the appropriation legislation. This would eliminate the \$1.975 billion addition and deduction needed to execute the 1984-Formula when the amount appropriated for it is less than what is needed to execute the formula per the underlying statute.

In addition, ACF can also help Congress anticipate large changes by using actual low income home energy expenditure estimates that are three years old instead of two years old. This would allow ACF to update the formula a minimum of six months prior to the start of the federal fiscal year for which the formula will apply. To implement this simple data change, ACF can pick a future fiscal year to implement the change and simply reuse the same data—and thus 1984-Formula allocation percentages—for each state as ACF used for the prior year. For example, if ACF implements this change for FY 2022, ACF could simply use the same FY 1984-Formula allocation percentages it used for FY 2021.

ACF conducted market research into formula automation possibilities in light of limited resources for such manual Excel calculations to update and execute the formula multiple times each year. ACF is pursuing steps towards an automated formula plan.

ACF advises against switching from retrospective data on low income home energy expenditures to future forecasted data because ACF believes that none of the federal EIA *Outlook* data would be reliable for purposes of distributing billions of dollars in LIHEAP grant funding. The primary reasons against relying on the forecast data are that (1) the reliability of these forecast data have not been validated by the data source; (2) the forecasts do not cover state-level data for all, or even most, fuel source types, and (3) the publication timing of these data would still create at least a one year time lag for inclusion in the LIHEAP formula, which is not a significant improvement of the current data lag with actual price data from a different data set (SEDS) from the same data source (EIA).

In calculating a “breakeven point” for FY 2021 based on the hybrid formula in place for that year—meaning the minimum amount needed to be appropriated through the 1984-Formula to maximize the number of states receiving a share of the 1984-Formula based on their dynamic 1984-Formula allotment percentages—only 36 states had breakeven points. Minnesota had the highest breakeven point of \$3,938,001,635. That is the amount Congress would have needed to appropriate through the 1984-Formula in FY 2021 in order for the 36 breakeven states to have a share of the 1984-Formula based on their respective 1984-Formula allotment percentages.