

# HOMEOWNERS SAVE WITH THE 2021 INTERNATIONAL ENERGY CONSERVATION CODE® (IECC®)

## Adopting the 2021 IECC Can Save New Homeowners Hundreds of Dollars a Year

According to analysis by the Department of Energy (DOE) Pacific Northwest National Laboratory (PNNL), the average new home built to requirements in the 2021 IECC will save residents of most states hundreds or even thousands of dollars a year in energy bills over homes built to the currently adopted energy code.

When wrapped into a down payment and financing, the annual cost increase is dwarfed by the annual energy savings—indicating that following code requirements can play an important role in improving housing affordability.

Details by state are captured in Table 1 along with notes on the assumptions made. Infographics and an interactive map with average cost savings by state are available at [www.iccsafe.org/advocacy/iecc-adoptions](http://www.iccsafe.org/advocacy/iecc-adoptions).



**Table 1. Benefits for Average New Home Built to 2021 IECC** (\* indicates code was amended, \*\* indicates No Statewide)

| State       | Current State Code      | Annual Savings (\$)      | Annual Energy Cost Savings (%) | Downpayment Increase (\$) | Annual Mortgage Increase (\$) | Years to Positive Cashflows | Present Value of Energy Cost Savings (\$) | Simple Payback (Years) | Net Annual Consumer Cash Flow in 1st Year (\$) | Jobs Created: First Year | Jobs Created: 30 Years Cumulative |
|-------------|-------------------------|--------------------------|--------------------------------|---------------------------|-------------------------------|-----------------------------|---|------------------------|--|--------------------------|-----------------------------------|
| Alabama     | 2015 IECC*              | 313                      | 13                             | 247                       | 8                             | 2                           | 6,519                                     | 6                      | 220  | 196                      | 5,359                             |
| Alaska      | 2009 IECC**             | 1,941                    | 29.2                           | 1,030                     | 101                           | 1                           | 45,762                                    | 4                      | 1,484  | 42                       | 1,232                             |
| Arizona     | 2009 IECC (Home Rule)   | 446                      | 18.1                           | 476                       | 31                            | 2                           | 8,043                                     | 9                      | 250  | 1,464                    | 41,600                            |
| Arkansas    | 2009 IECC*              | 783                      | 30.2                           | 591                       | 27                            | 2                           | 17,602                                    | 6                      | 552  | 131                      | 4,130                             |
| California  | 2019 Bldg. EE Standards | Deviates from Model Code |                                |                           |                               |                             |   |                        |  |                          |                                   |
| Colorado    | 2009 IECC (Home Rule)   | 423                      | 19.9                           | 574                       | 31                            | 3                           | 7,133                                     | 11                     | 193  | 1,286                    | 36,552                            |
| Connecticut | 2015 IECC*              | 301                      | 8.8                            | 394                       | 53                            | 4                           | 4,077                                     | 10                     | 111  | 275                      | 7,033                             |
| Delaware    | 2018 IECC               | 285                      | 9.8                            | 406                       | 15                            | 3                           | 4,429                                     | 11                     | 129  | 117                      | 3,487                             |
| Florida     | 2018 IECC*              | 225                      | 11.7                           | 205                       | 19                            | 2                           | 3,878                                     | 7                      | 135  | 2,099                    | 62,480                            |
| Georgia     | 2015 IECC*              | 327                      | 15.1                           | 392                       | 28                            | 3                           | 5,579                                     | 10                     | 164  | 1,218                    | 36,240                            |

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|----------------|-----------------------------|---------------------------------------|--------------------------------|---------------------------|-------------------------------|-----------------------------|---|------------------------|--|--------------------------|-----------------------------------|
| Hawaii         | 2009 IECC (Home Rule)       | 896                                   | 16.8                           | 288                       | 6                             | 1                           | 22,468                                    | 3                      | 790  | 192                      | 5,630                             |
| Idaho          | 2018 IECC*                  | 290                                   | 15.2                           | 437                       | 25                            | 4                           | 4,516                                     | 12                     | 114  | 196                      | 5,570                             |
| Illinois       | 2018 IECC*                  | 194                                   | 9.8                            | 391                       | 135                           | 11                          | 1,047                                     | 16                     | 3  | 626                      | 16,254                            |
| Indiana        | 2018 IECC*                  | 334                                   | 13.9                           | 568                       | 47                            | 5                           | 4,597                                     | 14                     | 90   | 395                      | 10,255                            |
| Iowa           | 2012 IECC*                  | 346                                   | 12.7                           | 384                       | 40                            | 3                           | 5,991                                     | 9                      | 174  | 146                      | 3,948                             |
| Kansas         | 2009 IECC (Home Rule)       | 712                                   | 25.9                           | 574                       | 61                            | 2                           | 15,033                                    | 6                      | 453  | 218                      | 5,883                             |
| Kentucky       | 2009 IECC                   | 708                                   | 28.5                           | 599                       | 44                            | 2                           | 15,096                                    | 7                      | 457  | 289                      | 7,931                             |
| Louisiana      | 2009 IECC                   | 423                                   | 20                             | 479                       | 11                            | 2                           | 7,868                                     | 9                      | 247  | 287                      | 9,042                             |
| Maine          | 2009 IECC                   | 1,007                                 | 23.5                           | 564                       | 50                            | 1                           | 23,772                                    | 4                      | 762  | 69                       | 1,742                             |
| Maryland       | 2018 IECC*                  | 264                                   | 10.6                           | 319                       | 24                            | 3                           | 4,213                                     | 10                     | 130  | 621                      | 18,453                            |
| Massachusetts  | 2018 IECC*                  | 73                                    | 2.4                            | 64                        | 6                             | 2                           | 1,827                                     | 7                      | 46   | 231                      | 5,895                             |
| Michigan       | 2015 IECC*                  | 337                                   | 10.7                           | 499                       | 68                            | 5                           | 4,514                                     | 12                     | 97   | 444                      | 11,526                            |
| Minnesota      | 2012 IECC*                  | 238                                   | 9.1                            | 376                       | 32                            | 5                           | 2,772                                     | 13                     | 76   | 427                      | 11,543                            |
| Mississippi    | 2009 IECC**                 | 632                                   | 25                             | 590                       | 28                            | 2                           | 13,048                                    | 7                      | 400  | 153                      | 4,193                             |
| Missouri       | 2009 IECC (Home Rule)       | 677                                   | 26                             | 700                       | 54                            | 2                           | 13,298                                    | 8                      | 381  | 780                      | 21,058                            |
| Montana        | 2018 IECC*                  | 177                                   | 9                              | 369                       | 25                            | 8                           | 1,534                                     | 17                     | 24   | 85                       | 2,429                             |
| Nebraska       | 2018 IECC                   | 163                                   | 7.9                            | 334                       | 48                            | 11                          | 780                                       | 16                     | -1   | 100                      | 2,711                             |
| Nevada         | 2021 IECC*                  | Code Updated Since Analysis Performed |                                |                           |                               |                             |   |                        |  |                          |                                   |
| New Hampshire  | 2015 IECC*                  | 537                                   | 15.1                           | 401                       | 61                            | 2                           | 10,956                                    | 6                      | 337  | 102                      | 2,590                             |
| New Jersey     | 2018 IECC*                  | 397                                   | 16.1                           | 391                       | 63                            | 2                           | 6,673                                     | 8                      | 199  | 490                      | 12,677                            |
| New Mexico     | 2018 IECC*                  | 266                                   | 12                             | 393                       | 20                            | 4                           | 4,191                                     | 12                     | 110  | 231                      | 6,564                             |
| New York       | 2018 IECC                   | 212                                   | 8.4                            | 263                       | 27                            | 3                           | 2,794                                     | 10                     | 94   | 747                      | 19,297                            |
| North Carolina | 2015 IECC*                  | 345                                   | 16.3                           | 383                       | 26                            | 3                           | 6,223                                     | 9                      | 187  | 1,275                    | 37,970                            |
| North Dakota   | 2009 IECC (Home Rule)       | 728                                   | 26.5                           | 519                       | 65                            | 2                           | 15,397                                    | 6                      | 483  | 38                       | 1,022                             |
| Ohio           | 2018 IECC*                  | 261                                   | 12                             | 422                       | 49                            | 6                           | 3,143                                     | 13                     | 66   | 681                      | 17,657                            |
| Oklahoma       | 2009 IECC*                  | 788                                   | 29.1                           | 661                       | 43                            | 2                           | 16,940                                    | 7                      | 517  | 173                      | 5,453                             |
| Oregon         | 2017 OR Res. Specialty Code | 81                                    | 5.1                            | -52                       | -3                            | Immediate Yrs.              | 3,543                                     | Immediate Yrs.         | 102  | N/A                      | 9,650                             |
| Pennsylvania   | 2015 IECC*                  | 341                                   | 13.5                           | 430                       | 50                            | 3                           | 5,303                                     | 10                     | 142  | 562                      | 14,537                            |
| Rhode Island   | 2015 IECC*                  | 814                                   | 18.5                           | 595                       | 69                            | 2                           | 17,769                                    | 6                      | 540  | 546                      | 14,105                            |
| South Carolina | 2009 IECC                   | 679                                   | 25.2                           | 579                       | 24                            | 2                           | 14,612                                    | 7                      | 455  | 558                      | 16,603                            |
| South Dakota   | 2009 IECC (Home Rule)       | 727                                   | 25.2                           | 447                       | 53                            | 1                           | 16,416                                    | 5                      | 520  | 49                       | 1,331                             |

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| Tennessee        | 2009 IECC*                | 719   | 29                             | 615                       | 43                            | 2                           | 15,312                                    | 7                      | 463  | 781                      | 21,402                            |
| Texas            | 2015 IECC                 | 179   | 8.9                            | 161                       | 26                            | 2                           | 2,690                                     | 7                      | 98   | 1,281                    | 40,390                            |
| Utah             | 2015 IECC*                | 334   | 16.4                           | 458                       | 25                            | 3                           | 5,783                                     | 11                     | 152  | 588                      | 16,705                            |
| Vermont          | 2018 IECC*                | Vermont's state code surpasses the level of efficiency of the 2021 IECC. The average new homeowner in Vermont saves an additional 4.3%, which equates to \$126 annually on utility bills, when compared to the 2021 IECC. |                                |                           |                               |                             |   |                        |  | -4                       | -104                              |
| Virginia         | 2018 IECC*                | Code Updated Since Analysis Performed   |                                |                           |                               |                             |   |                        |  |                          |                                   |
| Washington       | 2018 WA State Energy Code | Deviates from Model Code  |                                |                           |                               |                             |   |                        |  |                          |                                   |
| Washington, D.C. | 2015 IECC*                | 162   | 11                             | 150                       | 5                             | 2                           | 2,569                                     | 7                      | 105  | 9                        | 274                               |
| West Virginia    | 2009 IECC                 | 841   | 27.4                           | 734                       | 31                            | 2                           | 18,409                                    | 7                      | 557  | 86                       | 2,560                             |
| Wisconsin        | 2009 IECC*                | 651   | 21.6                           | 593                       | 84                            | 2                           | 12,411                                    | 7                      | 362  | 372                      | 9,644                             |
| Wyoming          | 2009 IECC                 | 651   | 24.1                           | 584                       | 36                            | 2                           | 13,730                                    | 7                      | 413  | 32                       | 904                               |

Notes: The following assumptions are made in conjunction with these values:

- Mortgage Interest Rate: 3%
- Loan Fees: 1% of mortgage amount
- Loan Term: 30 years
- Down Payment: 12% of home value
- Nominal Discount Rate: 3%
- Inflation Rate: 1.4%
- Marginal Federal Income Tax: 12%
- Marginal State Income Tax: State Specific Rate
- Property Tax: State Specific Rate

Note: While a state may have adopted an energy code, it may not be applicable in all local jurisdictions. Consult [codeadoption.iccsafe.org](http://codeadoption.iccsafe.org) for information on state and local adoptions.

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