



Federal Tax Credit for Solar Installations

Tax Credit?

A tax credit reduces the amount of income tax liability on a dollar-by-dollar basis. For example, a \$2,000 federal tax credit reduces the federal income taxes due by \$2,000.

Federal solar tax credit?

The federal solar energy credit is a tax credit that can be claimed on federal income taxes for a percentage of the cost of a solar system.

In August 2022, Congress passed a revision to the Investment Tax Credit ("ITC"), which provides a 30% tax credit for systems installed in 2022 - 2031, 26% in 2032 and 22% for systems installed in 2033. The tax credit expires starting in 2034 unless Congress renews it. It would also increase the solar credit another 10% for solar equipment built in America and would increase the tax credit another 20% for solar equipment installed in certain low-income housing applications.

There is no maximum amount that can be claimed, and the credit can be transferred from one party to another.

Eligibility to claim the federal solar tax credit?

These are the current requirements:

- The solar system was installed after January 1st, 2022.
- The solar system is located at your primary or secondary residence in the United States or installed on a commercial facility.
- You own the solar system (i.e., you purchased it with cash or through financing, but you are not leasing the solar equipment).
- The solar system is new or being used for the first time. The credit can only be claimed on the "original installation" of the solar equipment.

Expenses included in determining Solar equipment "cost"!

The following expenses are included:

- Contractor labor costs for onsite preparation, assembly, or original installation, including inspection costs, and developer fees

- Balance-of-system equipment, including wiring, inverters, and mounting equipment
- Sales taxes on eligible expenses (many states do not impose sales tax on solar installations)

Do other incentives affect the federal tax credit?

For current information on incentives, including incentive-specific contact information, visit the [**Database of State Incentives for Renewables and Efficiency website**](#).

Rebate from a State Government

Rebates from state governments **generally** do not reduce your federal tax credit. For example, if your solar system was installed before December 31, 2034, installation costs totaled \$20,000, and your state government gave you a one-time rebate of \$1,000 for installing the system, your federal tax credit would be calculated as follows:

$$0.30 * \$20,000 = \$6,000$$

State Tax Credit

State tax credits for installing solar **generally** do not reduce federal tax credits — and vice versa. However, when you receive a state tax credit, the taxable income you report on your federal taxes will be higher than it otherwise would have been because you now have less state income tax to deduct. The end result of claiming a state tax credit is that the amount of the state tax credit is effectively taxed at the federal tax level.

For example, the net percentage reduction for a homeowner in New York who claims both the 25% state tax credit and the 30% federal tax credit for a \$20,000 system is calculated as follows, assuming a federal income tax rate of 22%:

$$0.30 + (1 - 0.22) * (0.25) = 49.5\%$$

Note that because reducing state income taxes increases federal income taxes paid, the two tax credits are not additive (i.e., not 25% + 26% = 51%). For a \$20,000 system, the total cost reduction in this example would be:

$$[\$20,000 * 0.30] + [\$20,000 * (1 - 0.22) * (0.25)] = \$6,000 + \$3,900 = \$9,900$$

Rebates from Utilities to install Solar

Under most circumstances, subsidies provided by your utility to install a solar system are excluded from income taxes through an exemption in federal law.

When this is the case, the utility rebate for installing solar is subtracted from your system costs before you calculate your tax credit. For example, if your solar system was installed before December 31, 2034, cost \$20,000, and your utility gave you a one-time rebate of \$1,000 for installing the system, your tax credit would be calculated as follows:

$$0.30 * (\$20,000 - \$1,000) = \$5,700$$

How to File the Federal Solar Tax Credit

This is a step-by-step process of filing for the federal solar tax credit.

iAIRE recommends that you or your company discuss this credit with a tax professional to determine if you are eligible for state, local, or utility incentives that could affect the overall benefit of the Solar HVAC installation.

IRS tax forms (plus their instructions) to file for the Federal solar tax credit.

- Form 1040
- Form 5695

Also needed:

- Receipts from your **Solar HVAC** installation
- OG-100 Certification form

Federal Solar Tax Credit Filing

- Fill in **Form 1040** to **line 53**, it's time to switch to **Form 5695**.

Residential Energy Credits

▶ Go to www.irs.gov/Form5695 for instructions and the latest information.
 ▶ Attach to Form 1040, 1040-SR, or 1040-NR.

Your social security number

Part I Residential Energy Efficient Property Credit (See instructions before completing this part.)

Note: Skip lines 1 through 11 if you only have a **credit carryforward from 2019**.

| | | |
|--|---|---|
| <p>1 Qualified solar electric property costs</p> <p>2 Qualified solar water heating property costs</p> <p>3 Qualified small wind energy property costs</p> <p>4 Qualified geothermal heat pump property costs</p> <p>5 Add lines 1 through 4</p> <p>6 Multiply line 5 by 26% (0.26)</p> <p>7a Qualified fuel cell property. Was qualified fuel cell property installed on, or in connection with, your main home located in the United States? (See instructions.) ▶</p> <p>Caution: If you checked the "No" box, you cannot take a credit for qualified fuel cell property. Skip lines 7b through 11.</p> <p>b Print the complete address of the main home where you installed the fuel cell property.</p> <p style="margin-left: 40px;">_____ Number and street Unit No.</p> <p style="margin-left: 40px;">_____ City, State, and ZIP code</p> <p>8 Qualified fuel cell property costs</p> <p>9 Multiply line 8 by 26% (0.26)</p> <p>10 Kilowatt capacity of property on line 8 above . . . ▶ _____ x \$1,000</p> <p>11 Enter the smaller of line 9 or line 10</p> <p>12 Credit carryforward from 2019. Enter the amount, if any, from your 2019 Form 5695, line 16</p> <p>13 Add lines 6, 11, and 12</p> <p>14 Limitation based on tax liability. Enter the amount from the Residential Energy Efficient Property Credit Limit Worksheet (see instructions)</p> <p>15 Residential energy efficient property credit. Enter the smaller of line 13 or line 14. Also include this amount on Schedule 3 (Form 1040), line 5</p> <p>16 Credit carryforward to 2021. If line 15 is less than line 13, subtract line 15 from line 13</p> | <p>1</p> <p>2</p> <p>3</p> <p>4</p> <p>5</p> <p>6</p> <p>7a</p> <p>8</p> <p>9</p> <p>10</p> <p>11</p> <p>12</p> <p>13</p> <p>14</p> <p>15</p> <p>16</p> | <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> |
|--|---|---|

For Paperwork Reduction Act Notice, see your tax return instructions.

Step 1: Determine the solar credit.

- **Enter the full amount paid for the installed solar system on line 1.** This includes costs associated with the materials and installation of the new solar system. **As an example, assume \$20,000.**
- For this example, assume the solar was only installed on your home. **Enter "0" for lines 2, 3 and 4.**
- **Line 5 – Add up lines 1 through 4.**

Example: \$20,000 + \$0 + \$0 + \$0 = \$20,000

- **Line 6 – Multiply the amount in line 5 by 30% (.30)**

Example: \$20,000 x .30 = \$6,000

- **Line 7 – Check "No."** For this example, assume no other solar systems were installed, just **Solar HVAC** from **iAIRE**.
- **Lines 8, 9, 10 and 11** –You can fill each with \$0 and skip down to line 12.

| | | | |
|--|--|----------|--|
| 6 | Multiply line 5 by 26% (0.26) | 6 | |
| 7a | Qualified fuel cell property. Was qualified fuel cell property installed on, or in connection with, your main home located in the United States? (See instructions.) | 7a | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| <p>Caution: If you checked the "No" box, you cannot take a credit for qualified fuel cell property. Skip lines 7b through 11.</p> | | | |
| b | Print the complete address of the main home where you installed the fuel cell property. | | |
| | Number and street | Unit No. | |
| | City, State, and ZIP code | | |
| 8 | Qualified fuel cell property costs | 8 | |
| 9 | Multiply line 8 by 26% (0.26) | 9 | |
| 10 | Kilowatt capacity of property on line 8 above | 10 | |
| 11 | Enter the smaller of line 9 or line 10 | 11 | |
| 12 | Credit carryforward from 2019. Enter the amount, if any, from your 2019 Form 5695, line 16 | 12 | |
| 13 | Add lines 6, 11, and 12 | 13 | |

Step 2: Rollover any remaining credit from previous year's taxes.

- **Line 12** – If you filed for a solar tax credit last year and have a remainder you can roll over, enter it here. If this is your first year applying for the ITC, **skip to line 13.**
- **Line 13 – Add up lines 6, 11 and 12**
Example: \$6000 + \$0 + \$0 (if it's your first-year filing) = \$6,000

| | | | |
|----|--|----|--|
| 12 | Credit carryforward from 2019. Enter the amount, if any, from your 2019 Form 5695, line 16 | 12 | |
| 13 | Add lines 6, 11, and 12 | 13 | |
| 14 | Limitation based on tax liability. Enter the amount from the Residential Energy Efficient Property Credit Limit Worksheet (see instructions) | 14 | |
| 15 | Residential energy efficient property credit. Enter the smaller of line 13 or line 14. Also include this amount on Schedule 3 (Form 1040), line 5 | 15 | |
| 16 | Credit carryforward to 2021. If line 15 is less than line 13, subtract line 15 from line 13 | 16 | |

Step 3: Find out if you have any limitations to your tax credit.

- **Line 14 – For this line, you’ll need to switch to the worksheet at the top of page 4 in the 5695 instructions.**

Line 14

Complete the following [worksheet](#) to figure the amount to enter on line 14. If you are claiming the child tax credit or the credit for other dependents for 2020, the amount you enter on line 4 of the worksheet depends on whether you are filing Form 2555.

- If you are filing Form 2555, enter the amount, if any, from line 16 of the Child Tax Credit and Credit for Other Dependents Worksheet in Pub. 972.
- Otherwise, enter the amount from line 14 of the Line 14 Worksheet in Pub. 972.



If you aren't claiming the child tax credit or the credit for other dependents for 2020, you don't need Pub. 972.

**Residential Energy Efficient Property Credit
Limit Worksheet—Line 14**

-
1. Enter the amount from Form 1040, 1040-SR, or 1040-NR, line 18 1. _____
 2. Enter the total of the following credit(s) if you are taking the credit(s) on your 2020 income tax return:
 - + Foreign Tax Credit, Schedule 3 (Form 1040), Part I, line 1 _____
 - + Credit for Child and Dependent Care Expenses, Schedule 3 (Form 1040), Part I, line 2 _____
 - + Credit for the Elderly or the Disabled, Schedule R (Form 1040), line 22 _____
 - + Nonrefundable Education Credits, Schedule 3 (Form 1040), Part I, line 3 _____
 - + Retirement Savings Contributions Credit, Schedule 3 (Form 1040), Part I, line 4 _____
 - + Nonbusiness Energy Property Credit, Form 5695, Part II, line 30 _____
 - + Alternative Motor Vehicle Credit, Personal use part, Form 8910, Part III, line 15 _____
 - + Qualified Plug-in Electric Drive Motor Vehicle Credit (Including Qualified Two-Wheeled Plug-in Electric Vehicles), Personal use part, Form 8936, Part III, line 23 _____
 - + Child Tax Credit and Credit for Other Dependents:
 - If filing Form 2555: Pub. 972, Child Tax Credit and Credit for Other Dependents Worksheet, line 16.
 - If not filing Form 2555: Pub. 972, Line 14 Worksheet, line 14 _____
 - + Mortgage Interest Credit, Form 8396, line 9 _____
 - + Adoption Credit, Form 8839, line 16 _____
 - + Carryforward of the District of Columbia First-Time Homebuyer Credit, Form 8859, line 3 _____

Note. Enter the total of the preceding credit(s), only if allowed and taken on your 2020 income tax return. Not all credits are available for all years nor for all filers. See the instructions for your 2020 income tax return. 2. _____
 3. Subtract line 2 from line 1. Also enter this amount on Form 5695, line 14. If zero or less, enter -0- on Form 5695, lines 14 and 15 3. _____

- **Worksheet Line 1** – Enter the total taxes you owe (entered on line 47 on your 1040 form).

Example: \$6,000

- **Worksheet Lines 2 through 9** – If you’re claiming other tax credits, enter them here.

Example: \$0

- **Worksheet Line 10** – Add up lines 2 through 9.

Example: \$0

- **Worksheet Line 11** – Subtract line 10 from line 1 to find the amount of the credit you can claim this year.

Example: \$6,000 – \$0 = \$6,000

Enter this number on **line 11 of the worksheet.**

Step 4: Find out how much of the remainder (if any) you can roll over into your tax return next year.

Back to Form 5695.

| | | | |
|----|---|----|--|
| 14 | Limitation based on tax liability. Enter the amount from the Residential Energy Efficient Property Credit Limit Worksheet (see instructions) | 14 | |
| 15 | Residential energy efficient property credit. Enter the smaller of line 13 or line 14. Also include this amount on Schedule 3 (Form 1040), line 5 | 15 | |
| 16 | Credit carryforward to 2021. If line 15 is less than line 13, subtract line 15 from line 13 | 16 | |

- **Line 14** – Enter the number from line 11 of the worksheet.

Example: \$6,000

- **Line 15** – Enter the lesser number of line 13 or 14 (depends on total tax bill vs. total tax credits).

Example: \$6,000

- **Line 16** – Find the difference between lines 15 and 13 to see if there’s any credit to carry forward for next year. In our example, it balances out.

Example: \$6,000 – \$6,000 = \$0

Step 5: Apply the amount found in Form 5695 to your tax bill on Form 1040.

Add credit to Schedule 3/Form 1040

The value on line 15 is the amount that will be credited on your taxes this year. Enter that value into Schedule 3 (Form 1040 or 1040-SR), line 5, or Form 1040NR, line 50.

The steps above outline all you need to do to have 30% of the cost of your Solar HVAC system credited back to you! If you did energy efficiency improvements to your home in the same year, you may also need to complete page 2 of Form 5695. ***Either way, be sure to include Form 5695 when you submit your taxes to the IRS.***

Additional Incentives - There may be state, local, and utility incentives that you will also need to file or apply for in your local, state, or utility area. There are too many variations to explain in this simple overview, but they can be quite advantageous also.

You will want to keep the following in your tax files in the event of an audit of your tax return:

- Receipts from your **Solar HVAC** installation
- OG-100 Certification form