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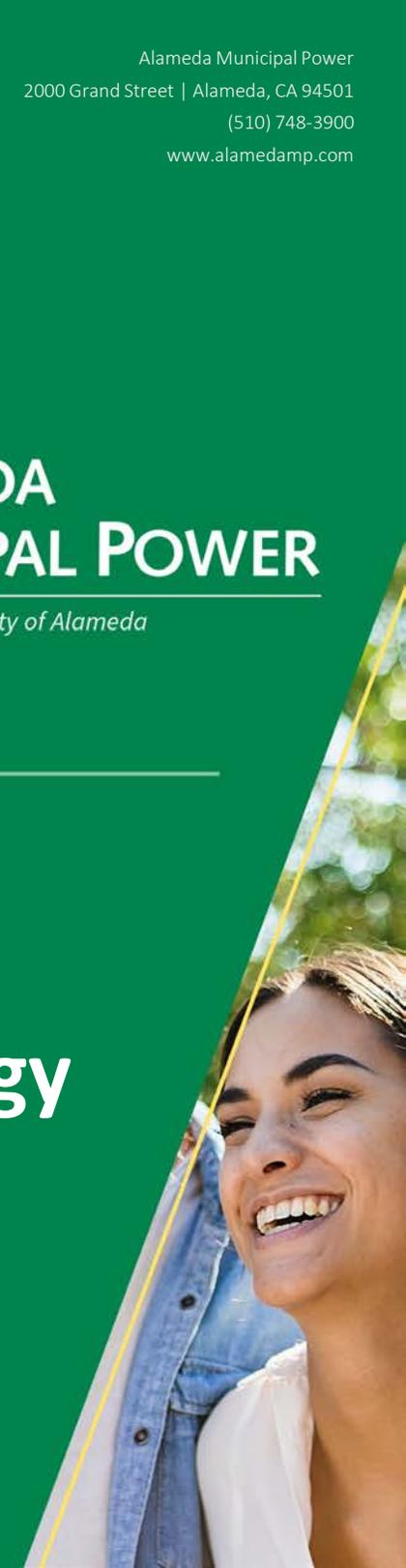


**ALAMEDA  
MUNICIPAL POWER**

*A Department of the City of Alameda*

# Your DIY Home Energy Audit Guide

*Powering our community*



## Do-It-Yourself Energy Audit Checklist

### Locate Air Leaks

Air leaks can be found outside and inside your home. Look for gaps or cracks. These can usually be sealed with caulking or weatherstripping.

**On the outside of your home, inspect areas where different materials meet such as:**

- Exterior corners
- Outdoor water faucets
- Areas where siding and chimneys meet
- Areas where the foundation and the bottom of exterior brick or siding meeting

**Inside your home, check:**

- Electrical outlets
- Switch plates
- Door and window frames
- Electrical and gas service entrances
- Baseboards
- Weather stripping around doors
- Fireplace dampers
- Attic hatches
- Wall or window mounted air conditioners
- Cable TV and phone lines
- Where dryer vents pass through walls
- Vents and vans
- Recessed lighting
- Mail slots

For weatherization tips please refer to the [Energy Tips](#) in the [resources](#) section of this guide. For a more detailed evaluation consider hiring a contractor to perform a blower door test. Blower door tests depressurizes a home and can pinpoint many air leaks.

### Evaluate Attic Insulation

Attic insulation is crucial for maintaining energy efficiency in a home. It acts as a barrier that prevents heat from escaping during colder months and keeps out excess heat during warmer periods. Most homes usually have the original insulation installed from when the home was built and may be inadequate.

R-Value is a numeric value that rates an insulating materials conductive heat flow based on material, thickness, and density. The higher the value, the greater effectiveness of the material. Based on Alameda's location, if there is no existing insulation, the recommended R-Value is between R-30 and R-60. If there 3-4 inches of existing insulation, the recommended insulation is between R-38 and R-49.

**Check for the following:**

- Vapor barrier – these are to reduce moisture
- Attic Vents – make sure insulation is not blocking attic vents
- Height of insulation

For a more detailed evaluation, consider hiring a contractor to perform a thermographic assessment.

### Inspect Heating and Cooling Equipment

Regularly inspect and clean areas around your heating and cooling equipment and replace filters as recommended by the manufacturer. Doing this allows for proper air flow for the equipment and will increase the longevity of the equipment.

## Do-It-Yourself Energy Audit Checklist Continued...

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### Program your thermostat

The U.S. Department of Energy suggests programming your thermostat to 68 degrees Fahrenheit or lower when you are home and awake and when you are asleep or away, set your thermostat to 60 degrees Fahrenheit or lower in the winter.

While in the summer, set your thermostat to 78 degrees Fahrenheit or higher when home and set the thermostat to turn off the air conditioner when you are asleep or away and have it schedule to turn on about a half hour before arriving home.

To learn more about smart thermostats, check out our [Programming Your Thermostat](#) tip sheet.

### Check Lighting

Identify any incandescent lighting in your home and change them out for either CFLs or LEDs.

LEDs and CFLs use significantly less energy than incandescent light bulbs because most of the power used is converted to light whereas incandescent lightbulbs lose most of their power as heat.

Refer to our [Lighting guide](#) to learn more about lighting selections.



### Calculate energy usage from appliances, electronics, and other equipment

Follow the steps below to estimate how much energy the equipment in your home is using and track their usage in the [Energy Usage Tracker](#) to determine where adjustments can be made.

You may also check out a Kill-A-Watt Monitor. [Learn more.](#)

1. Determine Power Rating: Identify the device's power rating, usually provided in watts (W) or kilowatts (kW). If given in watts, convert to kilowatts by dividing by 1000 (1 kW = 1000 W).
2. Determine Usage Time: Estimate the daily usage time of the appliance in hours. This could be the actual time the device is active or an average based on your routine.
3. Calculate Daily Energy Consumption: Multiply the device's power rating (in kW) by the daily usage time (in hours) to find the daily energy consumption in kilowatt-hours (kWh).
4. Determine Electricity Cost: Check for the cost of electricity per kWh for residential customers [here](#). Multiply the daily energy consumption by the cost per kWh to calculate the daily operating cost.
5. Calculate Monthly and Annual Costs: To find the monthly operating cost, multiply the daily cost by the average number of days in a month. For the annual cost, multiply the monthly cost by 12.

# Energy Usage Tracker

Operating Cost Formula:  $Watts \times \left(\frac{1}{1000}\right) = Kilowatts \times Operating\ Hours \times \left(\frac{\$}{kWh}\right) = Operating\ Cost$

| Appliance/Equipment | Watts (W) | Watts to Kilowatt Conversion | Operating Hours | kWh | Utility rate | Operating Cost |
|---------------------|-----------|------------------------------|-----------------|-----|--------------|----------------|
| 1.                  |           |                              |                 |     |              |                |
| 2.                  |           |                              |                 |     |              |                |
| 3.                  |           |                              |                 |     |              |                |
| 4.                  |           |                              |                 |     |              |                |
| 5.                  |           |                              |                 |     |              |                |
| 6.                  |           |                              |                 |     |              |                |
| 7.                  |           |                              |                 |     |              |                |
| 8.                  |           |                              |                 |     |              |                |
| 9.                  |           |                              |                 |     |              |                |
| 10.                 |           |                              |                 |     |              |                |
| 11.                 |           |                              |                 |     |              |                |
| 12.                 |           |                              |                 |     |              |                |
| 13.                 |           |                              |                 |     |              |                |
| 14.                 |           |                              |                 |     |              |                |
| 15.                 |           |                              |                 |     |              |                |
| 16.                 |           |                              |                 |     |              |                |
| 17.                 |           |                              |                 |     |              |                |
| 18.                 |           |                              |                 |     |              |                |
| 19.                 |           |                              |                 |     |              |                |
| 20.                 |           |                              |                 |     |              |                |
| 21.                 |           |                              |                 |     |              |                |
| 22.                 |           |                              |                 |     |              |                |
| 23.                 |           |                              |                 |     |              |                |
| 24.                 |           |                              |                 |     |              |                |
| 25.                 |           |                              |                 |     |              |                |

## Resources

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Below are additional resources to enhance your understanding of energy efficiency and suggestions you can implement in your home.

### Building Envelope

- [Weatherization Tips](#)
- [www.energy.gov/save](http://www.energy.gov/save)

### Electrical Devices

- [Media Devices](#)

### Heating and Cooling

- [Smart Thermostat](#)
- [Space Heating](#)

### Lighting

- [LED Lighting Buying Guide](#)
- <https://www.energystar.gov/>

### Did you Know?

- [Energy Questions, Terms, and Myths](#)

### Technical Resources

- Bay Area Regional Energy Network (BayREN) Home Energy Score  
[www.bayren.org/home-learning-center/home-energy-score-hes](http://www.bayren.org/home-learning-center/home-energy-score-hes)

### Federal Incentives

- [www.energystar.gov/about/federal\\_tax\\_credits](http://www.energystar.gov/about/federal_tax_credits)

## Alameda Municipal Power Programs

[www.alamedamp.com/rebates](http://www.alamedamp.com/rebates)

[www.alamedamp.com/killawattmonitor](http://www.alamedamp.com/killawattmonitor)

