

# Home Winterization and Energy Savings



**Village of Garden City Environmental Advisory Board**

**October 19, 2022**

# Presentation Focus

## Topics of Discussion

Benefits of Home Winterization

Key Steps to Winterize Your Home

PSEG's Free Home Energy Assessment

Practical Actions Residents Can Take to Save Energy

# Benefits of Home Winterization



*Proper preparation not only keeps the cold out, but it also protects your home from possible harm due to harsh temperatures, along with freezing rain, snow, and sleet.*

# Benefits of Home Winterization

**Since your home is completely exposed to the elements, it makes sense to prepare for winter storms, freezing temperatures, snow, and ice.**

**Proper Home Winterization will help residents to:**

Achieve energy savings

Obtain more comfortable living conditions

Prevent weather related damage

Avoid unnecessary repairs

Protect health and safety

Prepare for weather related events

# Benefits of Home Winterization

**Many of the benefits of Home Winterization will carry over to prepping your home for Spring and Summer.**

Insulation and weatherstripping will help keep the home cool during the summer months.

Lawn Sprinkler System and garden hoses should be in good working order.

Rain gutters and downspouts were properly cleaned last Fall.

Roof was protected against winter weather.





# Key Steps to Winterize Your Home



*According to the National Weather Service, the key steps include inspecting your chimney and roof, insulating your attic, cleaning out your gutters, applying caulk and weatherstripping, insulating exposed pipes, maintaining your alarms, and preparing supplies.*

# Key Steps to Winterize Your Home

## Home Exterior Steps

Inspect your roof and repair any minor damage.

Inspect your chimney for loose bricks, cracks, or animal nests.

Clean out your gutters and downspouts after the last leaves have fallen.

Cut back overhanging branches to prevent damage to roof shingles and gutters.

Remove dead branches to prevent injury and damage to your home and car.

Turn off your lawn sprinkler system and properly drain to prevent damage. Have the annual Backflow Test performed if it was not done last Spring.

Disconnect your garden hoses, fully drain, and store for the Winter. This will ensure they will be in good working order when you need them in the Spring.

Store (or cover if not possible) your lawn furniture and gas grill.

# Key Steps to Winterize Your Home

## Home Interior Steps

Inspect your attic for any water markings and insulate as needed.

Have your chimney inspected and cleaned and empty any accumulated ash from the fire box in your fireplace.

Have your heating system inspected annually.

Test and install as needed smoke detectors and carbon monoxide alarms. Replacing regular batteries when the clocks change twice a year is a good rule to follow.

Insulate pipes which are susceptible to freezing.

Consider installing an emergency pressure release valve which will protect against increased pressure caused by freezing pipes and can prevent them from bursting.

Use caulk and weatherstripping to reduce drafts from doors and windows.

Make sure your prepared supplies are readily accessible including snow shovels, ice melt, flashlights with extra batteries, bottled water, and non-perishable food.



# Key Steps to Winterize Your Home

The U.S. Department of Energy recommends the "whole house weatherization" approach that analyzes all of the building systems – the building envelope, heating and cooling systems, electrical system, and electric baseload appliances – through the completion of an energy audit.



## MECHANICAL MEASURES

- Clean, tune, repair, or replace heating and/or cooling systems.
- Install duct and heating pipe insulation.
- Install programmable thermostats and other HVAC controls.
- Repair/replace water heaters.
- Install water heater tank insulation.
- Insulate water heating pipes.
- Install solar water heating systems.
- Install waste heat recovery devices.



## HEALTH & SAFETY MEASURES

- Complete combustion appliance safety testing.
- Repair/replace vent systems to ensure combustion gas draft safely outside.
- Install mechanical ventilation to ensure adequate indoor air quality.
- Assess fire hazards. Install smoke and carbon monoxide alarms when needed.
- Evaluate mold/moisture hazards.
- Perform incidental safety repairs when needed.



## BUILDING SHELL MEASURES

- Install wall, floor, ceiling, attic, and/or foundation insulation.
- Complete Blower Door Testing.
- Perform air sealing.
- Repair/replace primary windows/doors.
- Install storm windows/doors.
- Install window film/solar screens/window louvers and awnings.
- Repair minor roof and wall leaks prior to attic or wall insulation.



## ELECTRIC BASELOAD MEASURES

- Install motor controls.
- Install efficient light sources.
- Replace refrigerators and freezers with energy efficient models.

# PSEG's Free Home Energy Assessment



*“PSEG Long Island offers a free energy efficiency home assessment to all customers, regardless of your heating fuel source. Get guidance on how to reduce your energy usage, and learn about exclusive rebates and financing.”*

# PSEG's Free Home Energy Assessment

**A contractor accredited by the Building Performance Institute (BPI) will test your home for air leakage. He or she will look for opportunities to improve your home's insulation, heating and cooling system, windows, appliances, and lighting, and then explain what improvements can be made.**

**During this assessment, your home will be evaluated for:**

Heating and cooling equipment efficiency

Air infiltration and ventilation

Carbon monoxide levels and/or moisture problems

Insulation levels, air leaks, and drafts

Heating and hot water system efficiency

Central air conditioning efficiency (if applicable)

Distribution system/ductwork (if applicable)

# PSEG's Free Home Energy Assessment

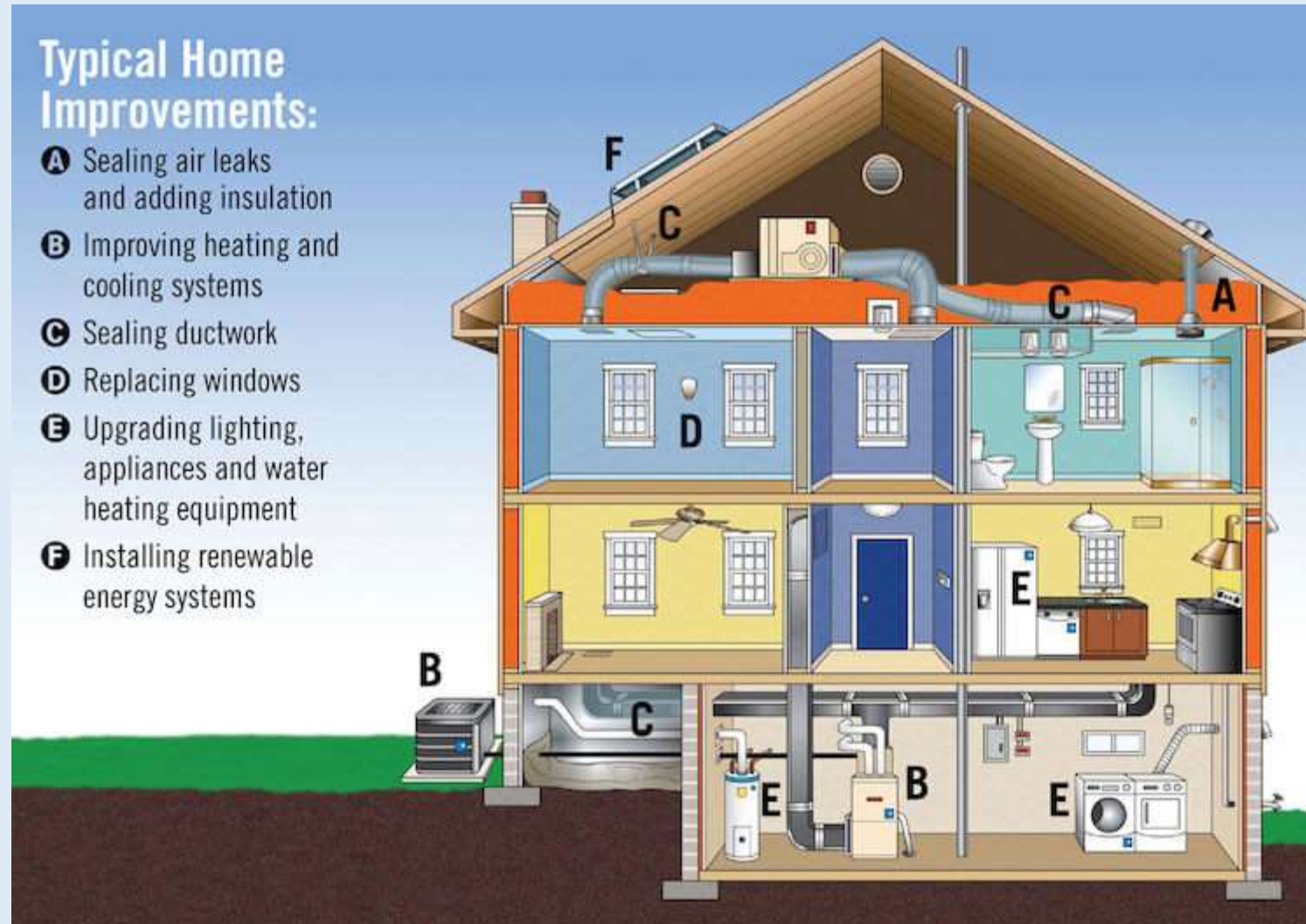
**After your home assessment, you will receive a detailed report with recommendations for money-saving energy efficiency upgrades.**

The Environmental Advisory Board and the Village of Garden City are only presenting this information and are neither endorsing nor recommending the PSEG's Home Energy Assessment for residents.

With any assessment, an auditor's job is to find issues and they undoubtedly will. Before you begin any work, make sure any improvements make financial sense with a timely and adequate return on investment which you can afford.

For more information on PSEG's Home Energy Assessments:  
<https://homeenergy.pseg.com/assessments> or call 1-855-846-2895

# Practical Actions Residents Can Take to Save Energy



*While residents can invest in home improvements for the long term, there are many inexpensive and practical actions they can take to save energy.*



# Practical Actions Residents Can Take to Save Energy

## Ways to Reduce Energy Use

PSEG has compiled over 66 ways to save energy at:

<https://www.psegliny.com/saveenergyandmoney/tipsandtools/66waystosave>

A microwave oven uses 70-80% less electricity than a conventional oven.

The refrigerator should be set to 35-38 degrees Fahrenheit and the freezer to 5 degrees.

Since up to 90% of the energy used by your washer is for heating the water and detergents now work just as well in cold water, reserve hot water for heavily soiled loads only.

Only run the washer and dryer when you have a full load of laundry.

Bathing uses the most hot water in the average household so shorter showers will not only save energy but also reduce your water bill.

Up to 75% of the electricity used to power home electronics is consumed when they are not in use. To reduce this phantom load, fully turn off or unplug electronics and charging units when not in use.

Avoid portable electric heaters as they are extremely costly to operate.

Set your thermostat to at least 65 degrees Fahrenheit to make sure your house is well-insulated.

Keep the fireplace damper tightly closed when not in use.

# Practical Actions Residents Can Take to Save Energy

## Changes to Make to Reduce Energy Use

Since lighting accounts for about 12% of your home's electric use, changing to LED bulbs or compact fluorescent lightbulbs (CFLs) will reduce the energy needed for lighting by 75% or more.

Storm windows and doors can reduce heating costs by as much as 15% and are good investments.

Use caulk and weatherstripping to reduce drafts from doors and windows.

Use inexpensive door draft stoppers on drafty outside doors to prevent cold air from blowing inside and to keep warm air from escaping.

Have furnaces, boilers and chimneys serviced annually to keep them running efficiently.

Since most of the heat lost in a home passes through the attic, make sure your attic is properly insulated and well-ventilated. If you have a limited budget, the attic is a good place to invest.

Consider purchasing a programmable thermostat to automatically raise and lower the temperature in your home according to your lifestyle. You can save up to 18% on your yearly heating and cooling costs by keeping your heating thermostat at the lowest temperature comfortable for you.

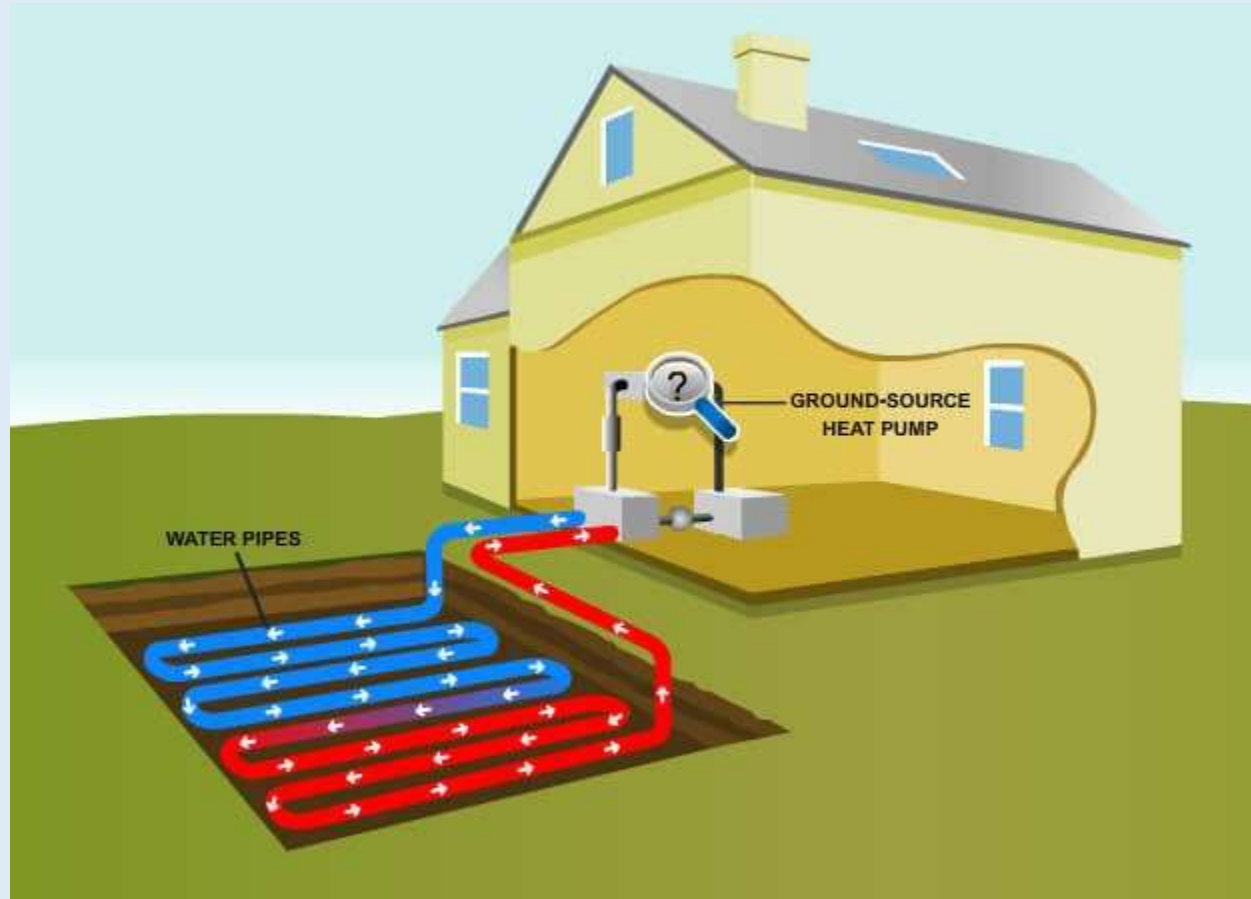
When needed, replace appliances with ENERGY STAR® models which are at least 20% more efficient than new conventional models and up to 40% on older models prior to 2001.

# Practical Actions Residents Can Take to Save Energy



*Solar Power is a significant investment. You will need to weigh the cost savings and the positive environmental impact you will obtain in the long term versus your initial investment and ongoing maintenance expenses.*

# Practical Actions Residents Can Take to Save Energy



*Geothermal Heating and Cooling Systems are long term energy saving investments. Due to their installation requirements, they are normally only practical on larger home lots and during new construction.*



# Concluding Remarks

## Summary and Conclusions

Proper Home Winterization will help residents to achieve energy savings, obtain more comfortable living conditions, prevent weather related damage, avoid unnecessary repairs, protect health and safety, and prepare for weather related events.

Benefits of Home Winterization will carry over to prepping your home for Spring and Summer.

The key steps to Winterize Your Home include inspecting your chimney and roof, insulating your attic, cleaning out your gutters, applying caulk and weatherstripping, insulating exposed pipes, maintaining your smoke and carbon monoxide alarms, and preparing supplies.

PSEG Long Island offers a free energy efficiency home assessment to all customers.







Before you begin any work, make sure any Home Energy improvements make financial sense with a timely and adequate return on investment which you can afford.

There are many inexpensive and practical actions residents can take to save energy.

Solar Power and Geothermal are significant long term investments in energy savings.



# Key Resources

Resource	Website
 Denver Urban Renewal Authority	<a href="https://renewdenver.org/winterize-your-home-for-savings/">https://renewdenver.org/winterize-your-home-for-savings/</a>
 NATIONAL WEATHER SERVICE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION	<a href="https://www.weather.gov/wrn/winter-at-home-sm">https://www.weather.gov/wrn/winter-at-home-sm</a>
 Free Home Energy Assessment	<a href="https://homeenergy.pseg.com/assessments">https://homeenergy.pseg.com/assessments</a>
 66 Ways to Save	<a href="https://www.psegliny.com/saveenergyandmoney/tipsandtools/66waystosave">https://www.psegliny.com/saveenergyandmoney/tipsandtools/66waystosave</a>
 What Makes an Energy Efficient Home?	<a href="https://updwell.com/what-makes-an-energy-efficient-home/">https://updwell.com/what-makes-an-energy-efficient-home/</a>
 Whole House Weatherization	<a href="https://www.energy.gov/eere/wap/whole-house-weatherization">https://www.energy.gov/eere/wap/whole-house-weatherization</a>