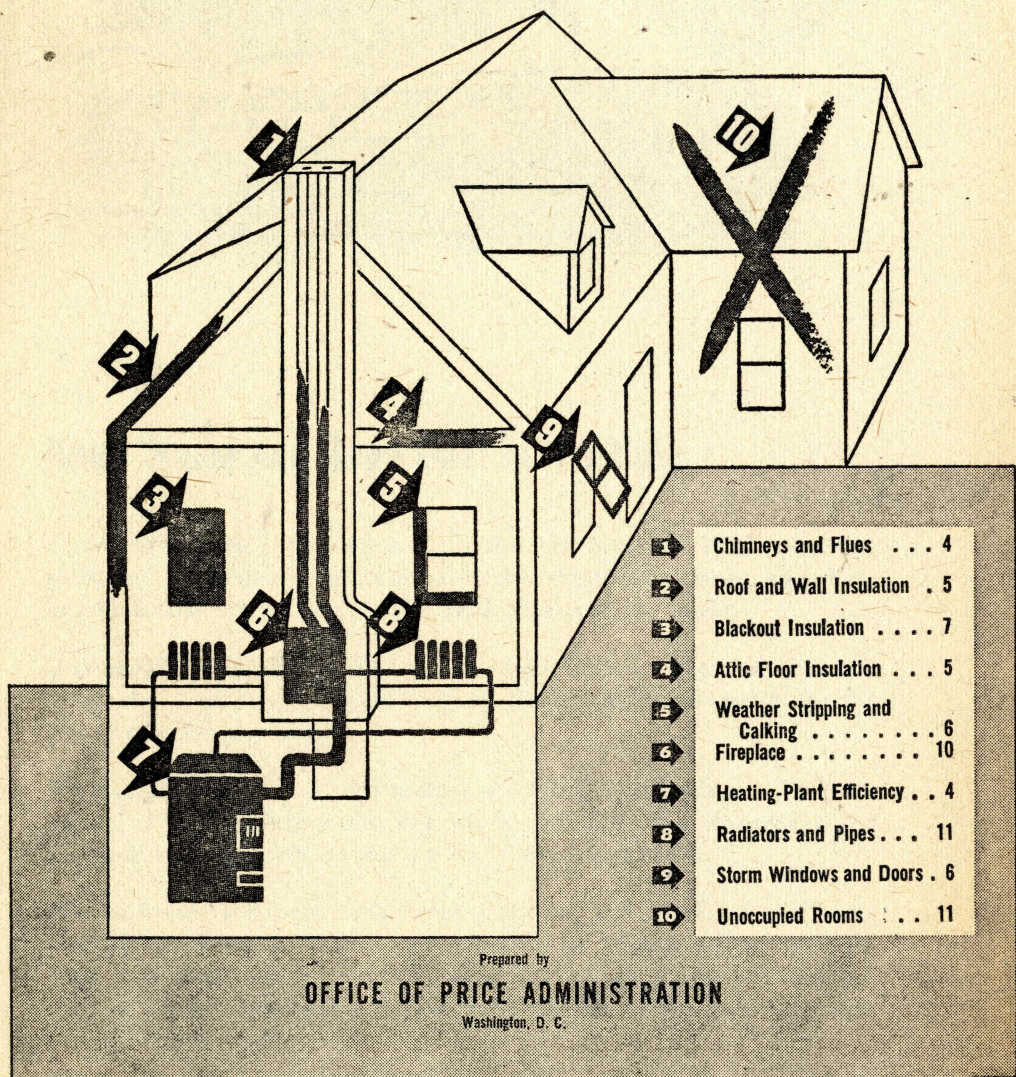
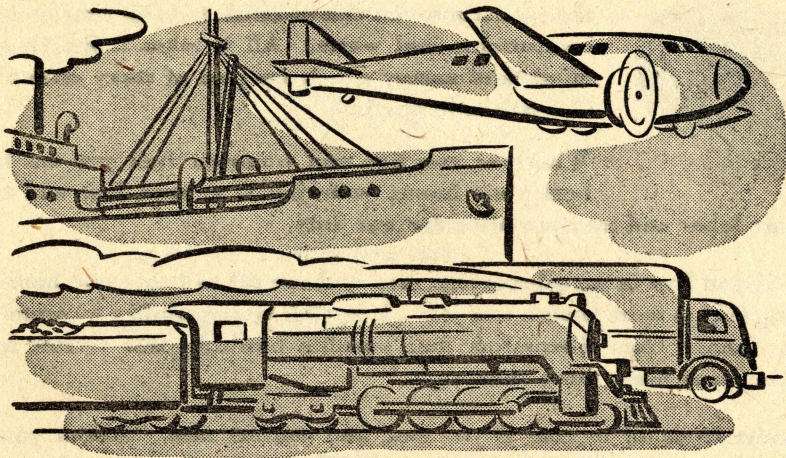


How to keep warm and save fuel in wartime





Keep Warm and Save Fuel in Wartime

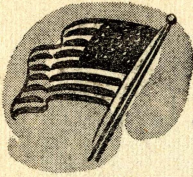
Our country needs oil and coal to run the factories that build our weapons. Our armed forces need oil for the tanks, planes, and ships in which they are fighting on the battle fronts of the world.

Our people need oil and coal to heat their homes, offices, schools, and hospitals. Our workers must keep up their health and energy for the job of winning the war.

We cannot get all the oil and coal we need to do these things. We have plenty of fuel underground, but we do not have the manpower and transportation to carry enough fuel to those who need it.

Our railroad tank cars, tank trucks, barges, and pipelines are being worked overtime to replace tankers sunk or transferred to military duty—but their carrying capacity falls short of our war production and civilian needs. There is a serious oil shortage in the East and Mid-western States right now.

Saving Fuel Is Your War Job



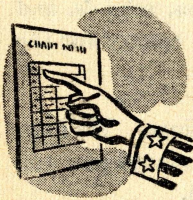
You should save oil and coal for war purposes. At the same time, you can do much to keep your home comfortable and warm. All it takes is the time, effort, and money which are part of every citizen's obligations in wartime.

Wherever you live and whatever fuel you use to heat your home, your job is to *save fuel* and to release labor and transportation for war duty.

But if you live in an oil-shortage area and use oil to heat your home, saving fuel is more than a war job. It is your responsibility to protect your family from discomfort and possible hardship this winter by making your home more "heat-tight."

Convert from oil to coal if you can, and convert now. Search your house from cellar to attic for the grates belonging to your old coal-burning equipment. If you have the grates, and the lugs (grate supports) are still intact in the furnace or boiler, conversion may be a fairly simple job. If the grates are missing, order them promptly from your heating contractor. If the lugs have been removed from the furnace or boiler, you will need a special kind of grate. Your heating contractor will be able to tell you how much conversion will cost, after he has inspected your equipment.

How You Can Save Fuel



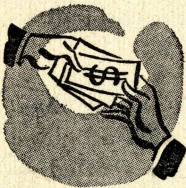
Here are the things you should do to save fuel this winter: Before the heating season begins, put your heating equipment in order and make your house easier to heat; during the heating season, work out a program that will make your limited fuel supply go farther—and stick to it.

Keep these facts in mind: The coal in your bins—the oil in your storage tank were brought to you by tanker over dangerous sea lanes or by railroad tank or trucks already burdened with war shipments vitally needed by our fighting men. And unless you take the right precautions, a good part of the heat from this costly fuel will escape up your chimney and leak out of your house through badly sealed windows, doors, ceilings, and walls.

Save every pound of coal, every gallon of oil you can. Save gas, too, because coal and oil are used in its manufacture.

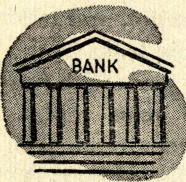
Use the following six points as a guide in solving your winter heating problem. They will help you to get as much heat as possible out of a smaller amount of fuel.

1. Check over your heating equipment to make sure it is in proper condition.
2. Make your house heat-tight to prevent cold air from coming in and heat from getting out.
3. Use your fuel efficiently.
4. Keep the temperature of your home as low as possible.
5. Close off rooms you do not absolutely need.
6. Dress warmly.
7. Don't throw bedroom windows wide open at night.



Think of these things as an investment and a war-time duty. They will bring dividends in health and comfort for your family and fuel savings for the household budget—and the fuel you save will add to America's fighting power.

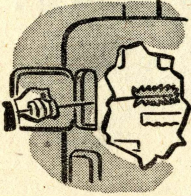
Pay cash for the things that involve an expense. The President has asked everyone to keep out of debt as part of our country's fight against the rising cost of living.



But if you cannot make this investment without the help of credit, take advantage of easy-payment facilities. The Federal Reserve Board has canceled its restrictions on loans to pay for heating improvements. The Federal Housing Administration has worked out a plan for financing these improvements, and any FHA-qualified lending institution will give you details.

Six ways to save fuel are covered in the following pages. Do as many of these things as you can, and *do them now!*

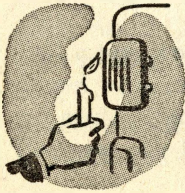
Put Your Heating Equipment in Good Condition



Your chimney may be eating up half the coal you shovel into your furnace or half the oil fed to your burner. It's a safe bet that from 30 to 60 gallons of oil out of every 100, and from 500 to 1,200 pounds of coal out of every ton, are lost through faulty equipment.

Some of this heat loss cannot be avoided, but much of it is pure waste. Thorough overhauling of your heating equipment is the only remedy. You can do some of the jobs yourself, but others will require the services of an expert. These are things that must be done to reduce loss of heat up the chimney and to cut down other types of leakage.

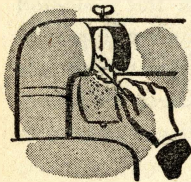
Oil and Gas Furnaces or Boilers



Have your service man: Clean the flue passages at least once and possibly three or four times a year; make a complete combustion check-up; see that the draft regulator is adjusted with a gage, and seal all air leaks.

Check up on air leaks yourself by testing flues, doors, outer surfaces, and openings with a lighted candle. If the flame is drawn inward, you probably have spotted an air leak.

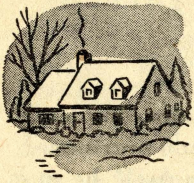
Coal Furnaces or Boilers



Clean the chimney, flue passages, fire pot, and interior parts with a flue brush. Seal air leaks in the smokepipe, furnace floors, and other parts with furnace cement. Have your service man replace broken or rusted dampers, and repair warped, broken, or burned-out grates. Also have him make sure the thermostat and stoker, if you have them, are correctly adjusted.

It's a good idea to have a draft regulator installed if you don't have one. Too much draft can send a good part of your heat up the chimney.

Keep the Heat Inside Your Home

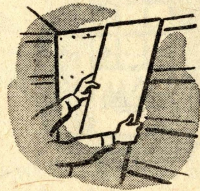
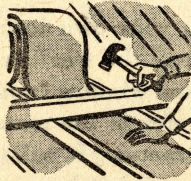
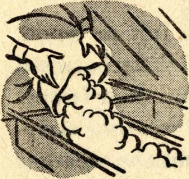


The rooms in which you and your family live may be retaining far less heat than they should due to "air leaks" in your house. A great deal of heat escapes through walls, ceilings, doors, and windows. Several things can be done to stop this waste of fuel—but first you must study the particular heating problems of your house. For example, if you own a one-story house with a large attic floor, insulation of this floor area probably is your first responsibility. If you live in a two-story house with many windows, storm windows or weather stripping may be the first step in solving your heating problem. After you have examined your house and decided how best to keep the heat inside, you may want to employ other heat-saving devices as well.

Here are the things to do:

Insulation

The most common types of insulating material are loose fill, blanket, batt type, and insulating board.

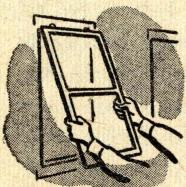


The home owner who is skillful with his hands can insulate his own attic floor, provided it is unfinished and has open beams.

Keep these tips in mind: Get explicit instructions from the company that sells you the insulating material. Pack or tuck the material snugly, leaving no open spaces. Be extremely careful not to step between the rafters, as you may damage the ceiling below. Don't overlook the ends of the beams over the eaves. If you use loose fill, make sure it is spread evenly. If you use the blanket type and the beams are uneven, fill in the gaps at the edges with a narrower strip of material. Find out how to ventilate the attic over an insulated floor.

To insulate a finished attic, or the side walls of your house, consult an expert.

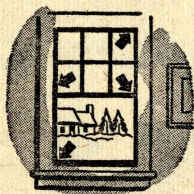
Storm Windows and Doors



You can buy storm windows and doors completely painted and installed or unpainted and untrimmed. If you fit, paint, and install them yourself, be sure that they fit snugly. If you cannot afford to install them all over the house, be sure to put them where they will do the most good—in rooms you use and heat and those that face the prevailing wind.

(Note.—If condensation appears on the inside of storm windows, you may have to bore small holes in the bottom of the sash to permit the entrance of air.)

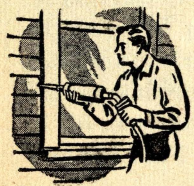
Weather Stripping



The most common types of weather stripping material are felt, wood, and metal.

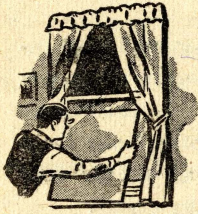
If you do your own installation, use felt or wood. Tack or nail the weather stripping tightly between window and window frame or door and door frame. If you prefer to use metal, call in a weather stripping contractor. It will cost more, but the weather stripping will last longer and probably fit better.

Seal Air Leaks



Small openings between the outside walls and window and door frames of brick, stone, and stucco houses should be sealed or "calked." To check heat loss in this way, get special calking material (including a calking gun, which can be rented) from hardware or paint stores.

Blackout Insulation



Combine window insulation with blackout curtains. Tack insulation board or blanket over the upper half of the outside window frames. (Half-lowered shades will conceal this from the inside.) Cover a frame with insulating board or blanket which you can fit over the lower half of your windows on the inside at night. An ingenious home owner probably can think up variations on this idea. This simple device will help prevent drafts and reduce heat loss and is very economical.

The following tables will give you some idea of the fuel savings you can expect this winter from insulation of a top-floor ceiling or attic floor and from installation of storm windows. Estimates are shown for four cities in different climate areas—Portland, Maine; Boston; New York; and Washington.

FUEL SAVINGS FOR EVERY 100 SQUARE FEET OF CEILING INSULATION

	Portland, Maine	Boston	New York	Washington
Gallons of oil.....	21½ to 36	18 to 30	16 to 26½	13¾ to 23
Pounds of coal.....	452 to 756	378 to 630	336 to 557	289 to 483
Cubic feet of gas...	5,203 to 8,712	4,356 to 7,260	3,872 to 6,413	3,328 to 5,566

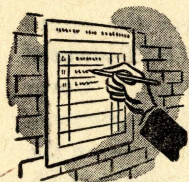
FUEL SAVINGS FOR EVERY 10 SQUARE FEET OF STORM WINDOWS

	Portland, Maine	Boston	New York	Washington
Gallons of oil.....	8½	7¼	6½	5½
Pounds of coal.....	179	152	137	116
Cubic feet of gas...	2,057	1,755	1,573	1,331

Two things make it more difficult to arrive at estimates of the amount of fuel saved by weather stripping. First, every window fits differently. Second, wind velocity changes from day to day and from area to area. In Portland, Maine, weather stripping on an unlocked double-hung wooden window would save about one-half gallon of oil for every foot of crack. Coal savings would be 10½ pounds per foot, and gas savings would be 121 cubic feet for every foot of crack. The saving is increased if the window is locked.

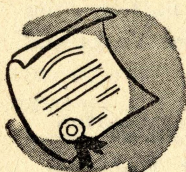
In all cases, fuel savings vary according to the quality of the materials used and the skill with which they are installed. Fuel savings for Pierre, S. Dak., correspond roughly to Portland, Maine; Omaha to Boston; Springfield, Ill., to New York.

Use Your Fuel Efficiently



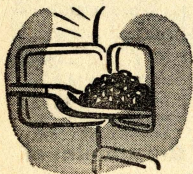
You cannot run your heating equipment in hit-or-miss fashion. Unless you know exactly what you are doing, you are bound to waste fuel—sometimes a great deal of it. Get detailed instructions from your dealer. Ask him if he has an oil or coal firing chart that you can hang in your cellar.

Oil



Because oil burners are automatic, there is little the home owner can do himself to adjust his heating equipment from day to day. Your best protection against heat loss is a certificate from your serviceman stating that he has brought your oil burner up to the minimum standards of the National Bureau of Standards. (These are defined in Commercial Standards CS75-42.)

Coal



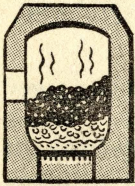
Keep plenty of coal on the grates. You can't expect to save coal by maintaining a skimpy fuel bed. Instead, hold back heat by working the dampers properly. Consult your dealer or coal firing chart about this. Do not leave the firing door open to bank the fire at night; if the fire doesn't bank properly, something is wrong with the dampers. When you shake the grates, stop as soon as a scattering of red coal drops into the ashpit. These fuel-saving hints cover all types of coal. Here are some other tips for specific kinds of coal:

Anthracite

Use the right size of coal—egg size for fire pots 24 inches wide or more and 16 inches deep; stove size for fire pots 16 to 24 inches wide, 12 inches deep; chestnut size for fire pots 20 inches wide, 10 to 12 inches deep.

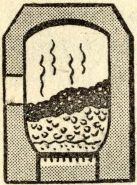
Use pea coal if your plant has sufficient draft. Use it also for banking fires and for slow fires during mild weather. To obtain more heat, open the ashpit damper and close the smokepipe check damper. To cut heat or to bank fire, reverse the process. Use in-between positions for steady heat during mildly cold weather.

Daytime Fire



In mildly cold weather, grates may not need shaking every morning. Shake only when you have to make room for fresh coal or to keep the fire going. Don't shake the grates on days when little heat is needed.

Night Banking



Grates usually don't need shaking at night. On very cold nights you may have to shake them to make room for enough coal to last through the night. But shake them no more than necessary.

Bituminous

When you shovel coal on the fire, leave a small burning area exposed so the newly added coal will ignite. This firing method cuts down chimney smoke.

Cone Firing



Level off live coals and dig a small hole in the center with a shovel. Pile in new coal to form a cone. The next time you fire, push a poker through the top of the cone to crack it.

Night Banking

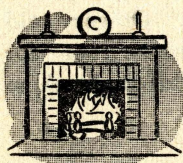


With a small coal shovel, push live coals either to rear or to one side of fire pot. Then place new coal in the depression on the opposite side.

Other Methods of Fuel Economy



Supplement central oil heating with coal or wood heat, if you live in an oil-shortage area. During mild weather use the fireplace instead of the oil burner. Try to find a fireplace grate that burns coal, a coal stove, or an old-fashioned wood parlor stove for use in emergencies. You may be able to connect the stove to a fireplace chimney.



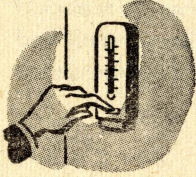
Check your radiators to make sure they are heating properly. Clean dirt out from between the tubes of a cast-iron radiator. If you have a built-in radiator, you may need the help of a heating contractor to lift the covers and remove the accumulated dirt inside. You can use a vacuum cleaner for this job. Put insulating board behind radiators to prevent heat from being absorbed through the wall. Keep heavy drapes and curtains away from radiators and grilles.

Most steam or hot-water boilers and pipes, whether fired by oil or coal, are covered with an insulating sheath. Keep yours in good condition. If your plant is not insulated, ask your heating contractor whether materials are available to do the job, in order to reduce heat loss in the basement of your house.

Lower the Temperature of Your Home

Too many homes are overheated. Many others can stand lower temperatures without affecting the health of the occupants. If your home is heated by fuel oil, and you live in a shortage area, get used to a lower-

than-normal temperature during the daytime and an even lower temperature for at least 8 hours at night. Stick to a rigid schedule throughout the heating season. Don't start off at your usual temperature and then reduce the heat later on when your oil runs low.

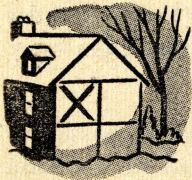


Even if you use coal, or live in a nonshortage area, you must avoid overheating your home. You will be saving fuel for yourself and for your country. Of course, if there are night-shift workers in the house, you will have to adjust your heating program to fit the circumstances.

Turn off the heat temporarily in rooms that are not being used during the day and in rooms that are being aired.

Reduce the temperature of a self-contained automatic water heater to 125 degrees. If you can adjust the thermostat yourself, raise the temperature one day a week for laundry and other jobs. For daily tasks, such as rinsing dishes, heat extra-hot water on the stove. Never draw more hot water than you need for any purpose.

Close Off Rooms



Close off rooms you do not absolutely need and rooms that are difficult to heat. Sun porches, spare bedrooms, little-used parlors and libraries can do without heat for the winter. Perhaps your living room can double as a dining room. You even can turn off heat in all your bedrooms if you keep the bathroom and hall warm. Don't heat your garage this winter.

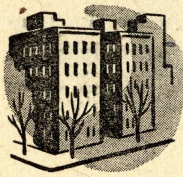
Take care not to freeze radiators. You may need the help of your heating contractor to close off and drain radiators and pipes. See that doors to unheated rooms fit tightly. Use weather stripping, wooden strips, or mats under the doors if necessary.

Close bedroom doors at night, so that air from open windows cannot get into other parts of the house. Also, use weather stripping, wooden strips, or loose material to block air passages beneath doors. Draw venetian blinds and shades at night in all rooms. Close dampers when fireplaces are not in use, or screen fireplaces tightly with insulating board or cardboard.

Dress Warmly

Dress warmly in order to keep warm and healthy with a lower temperature. Warm clothes do not have to be heavy, but they should fit comfortably, allowing freedom of motion. Wool sweaters or jackets are better for your health than heavy underwear, since they can be removed when you become overheated. Be especially careful to keep hands and feet warm and to provide heavier sleeping clothes and bed coverings for the family.

Apartment House Dwellers



If you live in an apartment house, you have an important contribution to make to the fuel-conservation program. Apartment living is a community enterprise. You already have learned to think of your neighbors in many ways. You have learned how to share laundry facilities, how to cooperate in the air-raid precautions program of your building.

Now you have another big job to do. You must learn how to save fuel, particularly if your apartment is heated by oil.

Your landlord may be called upon to spend time and money in overhauling his heating equipment or plugging up sources of heat loss in the building. He will have to use less oil this winter, but he has to pay more for the amount he can get.

You must learn to adjust your living habits to changes in the apartment-heating plan. Heat and hot water may have to be turned off at certain hours of the day, but if you and your landlord take the proper steps, you need suffer no hardship. Several of the fuel-saving suggestions described in this booklet can be followed by apartment-house tenants; below are other suggestions:

Turn off radiators before the apartment gets too hot, instead of opening the windows later to cool off rooms.

Whenever windows are open turn off radiators.

Save hot water.

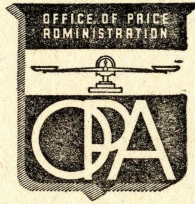
Clean and check radiators.

Turn off heat temporarily when you are not using a room.

Close bedroom doors and draw window shades at night.

Close fireplace dampers.

Dress warmly.



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