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U. S. GOVERNMENT  
INFORMATION PROGRAM

"PREPARE FOR WINTER"

To enlist public cooperation in a Government-Industry effort to provide adequate fuel stocks and encourage conservation of supplies available to consumers...thus insuring each his fair share and safeguarding the health and security of the nation.

Sponsoring Agencies:

War Production Board  
Solid Fuels Administration for War  
Office of Defense Transportation  
Bituminous Coal Consumers Counsel  
Petroleum Administrator for War  
Office of Price Administration  
Federal Housing Administration

43-50562

Prepared by

Office of Program Coordination  
U. S. OFFICE OF WAR INFORMATION ✓

1943

## U. S. GOVERNMENT PROGRAM

### "Prepare for Winter"

#### The Problem

America's war machine has an insatiable appetite for fuels of all kinds. As our nation plunges ever-deeper into the global struggle, its demands for coal and oil and gas and even wood and coke rise to figures far beyond the amounts produced, transported and distributed at normal peacetime rates.

These unprecedented demands from war plants, railroads, utilities, and overseas operations unavoidably cause actual shortages in some fuels and threatened or potential shortages in others. At the same time, the war, with its transportation difficulties, manpower and equipment shortages and other bottlenecks, diminishes dangerously the ability of the respective industries to provide the necessary fuels.

The problem, then, is: (1) to inform the consuming public as to the fuel facts that must be faced; (2) to invoke such early action as will help insure the production, transportation and delivery of amounts as close as possible to our needs; and, (3) to encourage consumers to conserve the supplies available for domestic use so that all may share alike and undue hardship may be avoided.

#### Phases of the Program

Because the necessity for stimulating the advance ordering of fuels is closely related with the need for heat-sealing homes to check fuel waste and for other measures designed to conserve fuels directly, all of these aspects have been wrapped together into an all-over program labelled "Prepare for Winter." The principal phases of this broad information program, as outlined herein, are:

1. Order Coal Early
2. Order Fuel Oil Now
3. Save Household Gas
4. Winterproof Your Home

The following pages give "reasons why" behind these programs and suggest plans of action appropriate for each.

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**"ORDER COAL EARLY"**

A phase of the U. S. Government's over-all  
**"Prepare for Winter" program**

**Sponsored by:**

Solid Fuels Administration for War  
Office of Defense Transportation  
Bituminous Coal Consumers' Counsel

**Presented by:**

Office of War Information

## The Coal Situation

Coal is not normally produced, transported or distributed in substantial quantities until after users have ordered it.

Mines have no facilities for storing unordered coal, railroad sidings cannot be blocked with tied-up cars and coal yards haven't sufficient capacity, even if they could finance speculative purchases.

This year, if consumers follow the usual pre-war practice of waiting until they actually need the coal before ordering it -- if the usual seasonal lag is allowed to occur -- it will be impossible to make up the lost ground. A real fuel emergency is thus likely to result.

In 1942, with the country's war effort beginning to hit its stride, the estimated production of bituminous coal was the highest in history - 580,000,000 tons. The estimated output of anthracite, 60,000,000 tons, although exceeded in the "golden age" of that fuel, reached a new peak for recent years.

But for 1943 the demands for coal will be even greater. Just to feed the locomotives that haul troops and munitions and the manifold cargoes of war-time industry, some 11,000,000 additional tons of soft coal will be required. Iron and steel manufacture alone is expected to demand approximately 126,000,000 tons - about 10% ahead of last year's needs. Utilities are calling for at least 10,000,000 tons more than last year. Conversions from other fuels to coal have added further to the requirements.

## What to do about it

The public can aid very materially in helping to solve the tremendous problems of producing such amounts of coal and getting it to the proper places in the face of transportation difficulties and acute manpower and equipment shortages all along the line. If coal consumers order their full requirements early, giving their dealers latitude on types of coal supplied and time of delivery, the mines keep operating at capacity, the railroads are able to move a greater net tonnage and retailers have a chance to utilize their storage and delivery facilities efficiently.

In other words, the unprecedented amounts of coal needed during 1943 can thus be mined, transported and delivered - and a coal crisis avoided. Here, then, are the appeals for action being addressed by the Government and the industry to the coal-consuming public:

1. Place orders now for your entire year's supply of coal.
2. Accept delivery when and as your supplier can make it available to you.
3. Give your dealer plenty of latitude as to the kind, grade or size of coal supplied, as well as on delivery schedules.

## The Present Program

The Office of War Information is acting as a central coordinating unit for the Government agencies and Industry groups directly concerned with this problem, and is utilizing its communication facilities to direct suitable messages to coal consumers, both "domestic" and "commercial".

Information material on the "Order Coal Early" program started going out to the public on May 3 as part of the over-all "Get-Ready for Winter" effort designed to help assure an adequate supply of fuel for war-time America and to educate consumers on how to keep warm with less fuel when cold weather arrives. News and feature stories, trade journal and magazine articles, posters, pamphlets, national and local radio broadcasts, direct mail pieces, space advertisements and other vehicles of information have told and will retell the "Order Coal Now for Delivery During the Summer" story in conjunction with fuel conservation messages.

The scope of this program is broad, for it applies equally to all classes of coal consumers, including householders, owners or managers of apartment houses, hotels, theaters, stores, museums, commercial buildings and others, and industrial consumers who buy coal from retailers.

Every industry having any part in the production, shipment and selling of this fuel can and should participate in this "Order Coal Early" drive. This of course includes coal mining companies as well as coal trade associations, railroads, water carriers, truckers, and wholesale and retail coal merchants.

Others that have an interest in the success of this undertaking include the manufacturers of furnaces, boilers, stoves, stokers and heat-control equipment, and plumbing and heating trades generally, and national and local municipal and business organizations (such as Chambers of Commerce, etc.)

Any effort to avoid the distress and resentment that would arise from local shortages of coal is, in fact, of vital concern to a very widespread group. Most of the industries and trade groups affected by the coal situation now have channels of communication with the public established in the course of their regular peacetime operations. Trade-organization contacts with schools, civic groups and the like should also be included. The benefits of success in this program are widespread; the penalties for "too little and too late" may indeed be severe.

PRECAUTION: Because of the tight situation in anthracite, "Order Coal Early" publicity efforts should not be conducted in the following states: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland and District of Columbia.

Copy Themes and Suggestions

The desire to keep warm arises from an elemental human need. While an individual helps others and contributes to the nation's war effort by ordering coal early, the deep-rooted urge to protect himself and his family constitutes the primary interest that impels him to action. Hence, the basic appeal, the dominant theme, of the entire program, can be stated as simply as this:

**"KEEP WAR THIS WINTER—ORDER COAL NOW"**

Variations on this self-interest appeal may be endless. Samples:

**AVOID HEATLESS DAYS THIS WINTER—ORDER COAL NOW**

**AVOID WARTIME DELAYS AND HEATLESS DAYS—ORDER COAL NOW**

**COAL IN YOUR BIN THIS SUMMER—YOUR BEST ASSURANCE OF WARMTH NEXT WINTER**

Statements from high Government officials in positions of authority with regard to coal as a vital element of civilian supply also are available to add strength to the program. These statements will be useful for quotation in news stories, radio material, dealer and other space advertisements, direct mail, etc.

Ordering Early Isn't "Hoarding"

The idea of stocking coal in consumers' bins may at first seem to run contrary to recently-promoted ideas such as "Buy only what you need, when you need it" and "Don't hoard". Indeed, some dealer advertisements last winter capitalized on this apparent contradiction by headlining their copy "HOARD COAL NOW". This may be carrying the situation to an extreme, for it requires some explanation to overcome the originally-created misconception. However, since the "Order Coal Early" theme does seem to reverse the usual appeal for conservation, headings such as the following, with appropriate explanations, might be used to forestall confusion:

**"Order Coal Early - It's Patriotic to Prepare for Winter Now"**

**"Orders Placed Now Help Increase the Coal Supply"**

**"Ordering and Storing Coal isn't 'Hoarding'"**

**"You Protect Yourself and Help Win the War -- Order Coal Now"**

Further information on the "Order Coal Early" program may be secured by writing the Office of Program Coordination, OFFICE OF WAR INFORMATION, Room 3453, Social Security Building, Washington, D. C.

## CONSERVATION OF COAL

With demand up and production lower than had been hoped for early in 1943, it is now evident that real shortages of coal may develop in various localities next winter.

This is particularly true of anthracite, produced in a limited area of Pennsylvania but used extensively throughout the New England and Middle Atlantic States, primarily for home heating.

It is expected that a broad-scale Government information program to conserve coal (among other fuels and industrial materials) by direct methods will get underway later in the year.

In the meantime, obviously the best way to promote conservation of coal is to encourage the heat-sealing of homes to cut fuel waste and the conditioning of furnaces to insure top efficiency. Detailed information on the recommended steps is included under the "Winterproof Your Home" program, outline of which forms a section of this plan book.

In preparing news stories, radio material, and other information on such points when the specific fuel to be saved is coal, it may be desirable to incorporate basic data about the supply situation. Hence, statements summarizing the problems in both anthracite and bituminous will be found as appendices in the back of this booklet.

Also included, for use in areas where wood is an important source of domestic heat, is a basic statement of the situation in that fuel.

U. S. GOVERNMENT  
INFORMATION PROGRAM

"Order Fuel Oil Now"

Sponsored by:

Office of Price Administration  
Petroleum Administrator for War  
Office of War Information



## U. S. GOVERNMENT PROGRAM

### "Order Fuel Oil Now"

#### The Supply Situation

As America goes into its third winter of war, the fuel oil picture again looks ominous.

Huge quantities of petroleum products are required to support our overseas operations and to keep the wheels turning on the industrial front at home. The railroads are again being called upon to perform heroic jobs of overland transport. And a new transportation bottleneck now looms -- the shortage of delivery trucks and truck drivers.

Just how much fuel oil will be available for civilian consumption depends upon such variables as the course of military offensive operations; how well the transportation difficulties can be solved; demands for the manufacture of chemical products such as synthetic rubber and TNT; the weather, etc. etc. But one thing is certain; the average fuel oil user will have to get along with considerably less than he'd normally use. In other words, rationing is with us again.

#### What's Being Done

Little need be said about the efforts being put forth by the oil companies, the rail and pipeline concerns, and the responsible Government agencies to move the required amount of oil to the necessary places; that story is well known.

The new and simplified rationing procedure set-up by OPA for this year likewise is being widely publicized, and it is expected that with the benefit of previous experience, many of the difficulties suffered last season may be avoided.

Briefly summarized, the 1943-44 rationing program to be instituted in 33 states and D.C. is expected to:

1. Give householders renewal rations by mail without personal registration.
2. Permit the use of a substantial portion of next season's coupons beginning in July.
3. Automatically raise rations, in certain small homes.
4. Greatly simplify the paper work and delivery problems of fuel oil dealers and primary suppliers.

Over and beyond the foregoing things that are being done to ease the burden, it must be recognized that a homeowner cannot use oil that doesn't exist or cannot be delivered to him. Hence, the obvious move is to take steps while

the weather is still mild to make sure that he will be able to get along with less without undue hardship. The "Winterproof Your Home" information program as summarized elsewhere in this plan book, has been carried on through a variety of media since early in May. Success of these "stitch in time" efforts may be measured by the demands for heat-sealing products such as insulation, weatherstripping, storm sash, etc. -- which many suppliers report to be the highest in history for the normally-dull summer months.

However, as with coal, timely action on the part of the consumer in laying in a supply of the fuel itself will help materially to relieve the situation this winter.

### The Job for Information

After fuel oil users have sent in their application forms and received back their ration coupons (a process which probably will have been completed in every locality by August 1 at the latest), they should be urged strongly to ORDER FUEL OIL NOW -- to the extent of tank capacity or available coupons.

"Reasons why" are as follows:

1. By ordering fuel oil now, consumers can be assured of having a supply on hand when the first cold spell arrives, which may be unexpectedly.

2. Early ordering will help break transportation and manpower bottlenecks which occur when everyone waits until the last minute, then all try at the same time to get their supplies. Permits efficient scheduling of deliveries.

3. By getting oil delivered to the home-heating market in advance, consumers tanks may be utilized as a primary storage reservoir, freeing the tanks of producers and distributors to store oil for overseas operations or later demands from the home front.

### Summarizing:

As soon as you get your fuel oil ration coupons -- and you should have them early in July -- call your fuel oil dealer and place your order. Don't demand immediate delivery...let your dealer schedule his trips to save manpower and tires. Order now, and he will deliver to the extent of your tank capacity or available coupons in plenty of time. By so doing you protect yourself and your family, and your hard-pressed dealer, and help win the war.

In addition to the "Order Fuel Oil Now" phase of the fuel problem, a need exists for explaining why fuel oil rationing is necessary and desirable for all; how the plan works; and how consumers can protect themselves by utilizing their rations in such a way as to make them last and still keep warm. This phase of the program is being carried on primarily by the Office of Price

Administration, and further information may be obtained by writing the OPA Campaigns Division, Federal Office Building, Washington.

Finally, the phase concerned with preparing houses so as to eliminate heat losses and consequent fuel wastage is set forth in the section of this plan book headed "Winterproof Your Home."

U. S. GOVERNMENT  
INFORMATION PROGRAM

"Save Household Gas"

Sponsored by

War Production Board  
(Office of War Utilities Division)

Presented by  
Office of Program Coordination  
OFFICE OF WAR INFORMATION

## U. S. GOVERNMENT PROGRAM

### "Save Household Gas"

#### The Problems

Shortages of natural and manufactured gas are expected to be more severe next winter than they were last, for two main reasons:

1. War production will be greater, requiring more gas than the already heavy consumption by war industries.
2. Transportation is expected to be even tighter than last winter, affecting the supply of the two products used in the manufacture of gas -- oil and coal.

Every effort will be made by natural gas companies who have the facilities to store all the gas they can this summer. That will help out next winter. In addition, some pipeline interconnections will be made this summer which will bring increased supplies of gas to companies in tight areas.

Manufactured gas companies cannot avail themselves of similar help. The average manufactured gas company has practically no storage capacity - as a rule such capacity amounts to a one day's supply - and the shortage of metal would prevent expansion of storage facilities even if it were practical. Of course, all the companies will fill their oil tanks and coal yards this summer, if they can get the oil and coal, but even that won't amount to a great deal.

The manufactured gas territory is centered in New England, along the Eastern seaboard, and in the Pacific northwest - roughly the same as the oil-rationed areas. Therefore, the same problems that confront the oil consumer confront the user of manufactured gas. The situation is as bad for one type of consumer as for the other, and therefore the two should receive comparable consideration.

Indeed, the gas situation may affect the greater number for more people heat their homes by gas than by oil, and millions more cook by gas than heat by gas or oil.

### Consequences of Shortage

If a gas "outage" occurs (resulting from abnormal drops in gas pressure in the distribution) war plants may have to shut down; houses heated by gas may go cold. resulting in broken water pipes, discomfort and possible illness to the community; gas ranges, water heaters and refrigerators may become useless until gas can be restored in the mains.

Once a gas failure has actually occurred, it might take weeks to restore service. The gas company must send a representative to every home it serves to cut off the gas at the meter. Before gas is restored, pressure must be built up in the lines to eliminate any air pockets, and the company representative must again visit every home to check gas appliances to see that all jets are turned off. They must then turn on the gas at the meter and light pilot lights under the appliances.

### What To Do About It

The only way to alleviate the situation next winter is to put on a fuel conservation campaign in time to do the most good.

The first and broadest step is to get people who heat with gas to make their homes as heat-tight as possible. (This phase is covered in detail under "Winterize Your Home" in the final section of this booklet).

Then, when cold weather actually arrives an information drive should be undertaken on the economical use of gas for both heating and cooking, with special emphasis on what should be done during the emergency shortage period.

Gas cannot be ordered or delivered ahead of use (as can coal) and there is no adequate way in which its consumption can be restricted except by voluntary action on the part of domestic users. Since the supply of gas to vital war plants must not be curtailed, the cut must come from household

consumers when extremely low temperature brings on "peak days" of abnormally high demand.

Following are the principal points that should be stressed to the public when these emergency situations arrive:

1. IF YOU COOK WITH GAS....Don't use oven for any purpose. Use one top burner, and then only for essential purposes. (Use prepared foods to greatest extent possible). Don't use range or oven burners for heating rooms.

2. IF YOU HEAT WATER WITH GAS...Turn off your hot water heater, whether or not automatic. If you must have some hot water, heat it on a top burner. Avoid taking hot baths or showers during emergency period. Wash entire day's dishes at one time...postpone home laundry until after the emergency...don't leave hot water running.

3. IF YOU USE GAS FOR HOME HEATING....Close off all rooms not absolutely needed. Keep windows and doors closed until emergency is over. Use fireplace, electric heaters, etc. as much as possible. Set thermostat at maximum of 60 degrees. Pull down shades at night and during day except when it is sunny.

#### Long-range Programs

Although gas is widely used as a household fuel, emergency conservation programs of the type outlined above obviously need be conducted only at the time crisis conditions brought about by cold snaps actually arrive.

However the supply of gas in many localities leaves little margin for safety, and it is highly desirable in such places to conduct a consistent campaign for the education of the consumer in the efficient use of gas. Factual material for such use is generally in the hands of local utilities. The latter concerns, working with newspaper, radio and other informational outlets and enlisting the support of agencies handling materials for 'winterizing' homes, can well form the nucleus for cooperative programs in their areas.

Long-range conservation programs of this type naturally will rely heavily on promotion of the "make your house heat-tight" theme. The following statement from the Foreword of a portfolio containing advertising material used in the Pittsburgh area provides a "case history" illustration of such a project:

"Early in 1942 the Natural Gas Companies Serving the Greater Pittsburgh Area, cooperating with the Power Branch of the War Production Board, began a program of advertising to educate the public to conserve Natural Gas, using the Theme: 'Natural Gas is Vital to War industries -- Use it Wisely!' The first series of advertisements began in January and ran through March.

"In the summer, the fuel conservation advertising campaign was resumed -- this time in the form of a specific drive to sell the use of home insulation, storm sash and doors, weatherstripping and caulking as a practical means of saving fuels.

"To assure maximum effectiveness of this advertising campaign, the Gas Companies solicited -- and received -- the cooperation of manufacturers and dealers handling insulation, storm sash and weatherstripping. The result was a cooperative campaign -- from early August through November -- whose effectiveness was many times what it would have been had this active dealer support not been secured.....The net result of this cooperative campaign was a tremendous increase in the number of insulated, storm windowed and weather-stripped homes in the Pittsburgh district -- which in turn will mean a substantial saving in the use of Natural Gas as well as other fuels."

#### Emergency Programs

All the major "what to do" points needed as the basis for an emergency program in any community are incorporated under the three headings listed in the first part of this statement.

These points can be stressed in local publicity and advertising for newspapers, radio, direct mail, outdoor and other media. In addition, various government suggestions for the use of such channels of information are expected to be available by the time cold weather arrives. Simply write the Office of Program Coordination, OWI, Washington, D. C.



U. S. GOVERNMENT  
INFORMATION PROGRAM

"Winterproof Your Home"

A phase of the all-over program  
"Prepare for Winter"

Sponsored by

War Production Board  
(Conservation Division)

Presented by

Office of Program Coordination  
OFFICE OF WAR INFORMATION

## "WINTERPROOF YOUR HOME"

### U. S. Government Information Program to Promote the Heat-Sealing of Houses to Conserve Fuel, and to Safeguard Health and Comfort this Winter

There undoubtedly will be a serious fuel shortage next winter. This fact must be faced now by every individual.

Yet, to maintain national health and morale, people must be enabled to live in reasonable comfort during the winter months. Whether or not this can be achieved may well influence the course of the war. The only way it can be achieved is by means of a national fuel conservation program. Such a program has been formulated and conducted through Office of War Information facilities under the title "Prepare Now for Next Winter." A basic phase of that all-over effort is the "Winterproof Your Home" program, sponsored by the Conservation Division of the War Production Board, and outlined in the following pages.

Primary objective of the campaign is to make every lump of coal, every gallon of oil, every unit of heating gas do maximum work to get more usable heat from the fuel that will be available. This thought is summarized in the campaign slogan, "Keep Warm with Less Fuel this Winter." Hence the effectiveness of every measure taken to meet the fuel shortage will depend upon the condition of homes that require heating. Action must be taken now to prepare the nation's homes for the inevitable fuel problem ahead.

The Government is making every effort to help meet this emergency. Materials needed to heat-seal the home, though not plentiful, are generally available. No WPB permit is required to begin work on their installation, and the Federal Housing Administration, operating through banks and other qualified lending institutions will help finance the work.

The following is intended as a working manual of non-technical information on the materials needed and methods recommended for "winterproofing" residential and other buildings to conserve fuels. It has been prepared primarily for the use of information people and groups in a position to sponsor a vitally-needed program calling for timely action.

#### NATURE OF THE PROBLEM

This is a conservation job. The only way to assure a comfortable and healthful interior at a minimum consumption of fuel is to prepare for winter now by "heat-sealing" the home.

The problem is national in scope -- but local in its solution. Since it comes down to every home in the nation, it becomes a direct responsibility of every home owner. All local groups, therefore, are duty-bound to safeguard the health and well-being of their communities by stressing consistently from now on the very real urgency of this problem. Only the most intensive and persistent educational steps can succeed in overcoming the natural inclination of people to postpone preparations for winter until winter is upon them. Manpower to do the work and transportation to carry the materials, already limited, are rapidly becoming more so. Unless the work required on millions of American homes is spread over the summer and early fall months, much of it will not be done at all.

Therefore every possible means must be used to persuade the public that heat-sealing their homes is a prime wartime duty to be performed without further delay. Like the selling of War Bonds, selling the necessity of heat-sealing homes calls for the whole-hearted cooperation of city clubs, organized local war groups, local newspapers, contractors, architects, building supply, dealers and hardware people as well as broader educational media such as national and sectional advertisers, national and trade distribution associations, national

and local radio directors, magazine and newspaper writers, lecturers, etc.

Public schools can and should actively participate in this program.

Fuel conservation is an eminently practical topic for physical science, domestic or home science, and the manual training classes. Students should be urged to apply their training to their own homes and to the school building itself, as well as to other structures in the community which offer good examples of inadequate heat-sealing.

#### THE HOME AS A "HEAT RETAINER"

To obtain maximum benefit from every unit of fuel burned, the heat generated by any fuel must be "sealed" or retained within the home. Approximately the same comfort may be enjoyed from burning less fuel if the heat from that fuel is forced to work by being sealed within the house for a longer period of time -- made to work longer.

#### WHY MOST HOMES AREN'T HEAT-SEALED

Practically all home-building except for war workers has ceased for the duration. If we were not at war, however, heat-sealed homes could be built today at a very moderate increase of cost over that of unprotected homes. For in recent years, new product developments and construction techniques have greatly increased the effectiveness of heat-sealing methods, while decreasing their cost. Most American homes were built when heat-resistant construction was more costly than it is now, and little consideration was given to heat-sealing. Hence most houses today have numerous heat "leaks." However, modern materials and methods enable the home owner to "plug" these leaks at relatively small cost and the fuel-savings thereby realized will defray the expense.

## HOW TO HEAT-SEAL THE HOME

There are 9 major points of attack in the prepare for winter campaign. They represent the 9 steps which must be taken by individual home owners to provide maximum comfort with the minimum fuel used throughout the coming winter. They are:

- (1) Heat-seal attic floor or roof.
- (2) Heat-seal walls whenever practicable.
- (3) Weatherstrip all windows and doors.
- (4) Calk cracks.
- (5) Equip home with storm windows and doors.
- (6) Equip home with winter vestibules.
- (7) Heat-seal walls dividing off unused or rarely-used parts of the house.
- (8) Heat-seal the ceilings of unheated basements and cellars.
- (9) Heat-seal parts of the home's heating equipment.

In the following pages, these 9 steps are presented in order. Each step is first approached by indicating the nature of the heat loss. Then appropriate heat-sealing materials are listed and correct methods of application explained.

### PRECAUTIONS

When applying insulating materials consideration must be given to the amount of moisture or humidity that will be present within the home. Wherever practicable, vapor barriers -- water-resistant building papers of various kinds -- should be placed between the heat-sealing material and the inside surfacing, usually the plaster, of the ceiling or walls. This can be done readily in new structures, but is usually impossible in the walls of completed buildings. Where vapor barriers are not used, the humidity within the house should be kept to the minimum consistent with good living conditions to avoid the possibility of difficulties developing in the wall structure itself.

## 1. HEAT SEAL ATTIC FLOOR OR ROOF

a. Nature of heat loss. Heated air rises. Unless the roof is heat-resistant, therefore, the entire house acts as a flue for the upward flow and escape of heat produced on the lower floors. The fuel which can be saved during an average heating season by heat-sealing the attic floor or roof is indicated by the following table:

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FUEL SAVINGS FOR EVERY 100 SQUARE FEET OF HEAT-SEALED ATTIC FLOOR OR ROOF  
(Based on use of high-efficiency insulation)

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	<u>Portland, Maine</u>	<u>Boston</u>	<u>New York</u>	<u>Washington</u>
Gallons of oil	22 to 36	18 to 30	16 to 27	14 to 23
Pounds of coal	452 to 756	378 to 630	336 to 557	289 to 483
Cu. ft. of gas	5,302 to 8,712	4,356 to 7,260	3,872 to 6,413	3,328 to 5,566

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All types of roof construction are guilty of wasting heat. Even the best structural materials permit the waste of fuel to such a degree that heat-sealing soon pays for itself in fuel savings when used with those materials.

b. Materials to be used. Open attic floors or roof areas can be heat-sealed with many types of material. These materials include: mineral wools, usually in loose granule or batt form; granulated or compressed cork; expanded mica; chemically treated fiber material made of wood, cotton, paper etc.; insulating fiber boards in sheet form made from fibers of wood, cornstalks, sugar cane, etc., and other materials. Some of these materials and others, such as paper and some grasses are made in the form of strips or blankets.

The kind and type of material the owner selects depends on what the market affords prevailing structural conditions, whether he will do the work himself or have it applied professionally, and the cost. Although any heat-sealing material is better than none, the better materials correctly

applied, in proper amounts or thickness, are well worth their slight additional cost whenever the owner can afford them.

c. Methods to be employed. The roof of the house should first be carefully checked for loose shingles, slates, or any openings not needed or not properly protected. Various types of roofing are available despite war shortages, and defective roofs should be repaired. Competent roofing people should be consulted if any extensive repair work is necessary.

## 2. HEAT-SEAL WALLS WHENEVER PRACTICABLE

a. Nature of heat loss. The air in the walls of buildings, particularly of frame construction, is of little use as an insulator because the large spaces where it is confined permit circulation of the air which loses heat by contact with the outside wall surface or through cracks in it. By sealing up the walls similar results to those obtained with roofs or attic floors will be gained, but to a somewhat different extent.

b. Materials to be used. The same materials recommended for the attic floor or roof may also be used for heat-sealing walls unless the walls are of solid masonry or concrete. Owners of such buildings are accordingly limited to the other heat-sealing steps described herein.

c. Methods to be employed. In homes already built, only certain types of insulating materials are adaptable for walls. These consist largely of the type that can be introduced by making small outside openings through which fill types of insulating materials are efficiently blown into the wall spaces. Openings are then closed without leaving a noticeable trace of where they were made. If the wall structure permits, other types of insulation -- batt, blanket or granular -- can be poured or packed into the wall from the attic or other open space above. The rigid board type may be used as an inside lining or, with asphalt coating and mineral granule surfacing, as an outside covering.

For best results, the person installing the material should observe standards of practice already set up by the leading manufacturers and applicators of such materials. All wall space must be filled and much of the effectiveness of the job depends on the integrity and ability of those responsible for doing the work.

### 3. WEATHERSTRIP ALL WINDOWS AND DOORS

a. Nature of heat loss. The crack which runs around an average window totals a space which is equal to the size of a common brick. In the average home this means a total open space of 22 bricks -- or an opening as large as an ordinary kitchen sink.

Hence it is obvious why heat lost through these cracks around windows and doors is one of the top factors in fuel waste. This heat loss may average approximately 25 percent in some cases. The cracks in many homes are so large that they are one of the commonest sources of drafts, especially when strong winds are blowing. Winter soot, rain, snow, and summer dust also find easy access to the home through these openings. Such openings around windows and doors can be sealed with weatherstripping.

b. Materials to be used. The most common type of weatherstrip materials are zinc, copper, felt, and wood. Metal types are preferred for durability and permanence. Copper weatherstripping cannot be purchased for the duration, but some zinc types are available. Although certain regulations now restrict the manufacture of zinc weatherstripping also, there are substantial stocks of finished strips in the hands of dealers in many localities through the country. These dealers are also offering some plastic weatherstrips which, it is claimed, will augment the supply of zinc strips still available.



c. Methods to be employed. When used on wood casements, weatherstripping is nailed in or over the cracks between the window sash and window frame; the same is true on doors and door frames. For metal frame windows, the weatherstripping must be attached with a special cement. Since the correct installation of weatherstripping is very important, it is advisable to seek professional advice if metal is used; other types made of wood, or felt may be successfully applied without such assistance.

Some special tapes have been developed that can be applied on the inside of window sash to seal cracks against heat escape. These tapes may be used on either or both sash but the sash on which it is used cannot be opened. An important use of protective tape is around large windows such as those in stores, schools, theatres, churches, etc. In the average home, there are generally several windows that can be sealed in this manner after deciding which windows should be left "movable" for ventilation purposes.

#### 4. CALK CRACKS

a. Nature of heat loss. In any home, normal deterioration and "settling" results in a variety of open joints and cracks in materials through which heat may escape. But more important than these are the cracks that occur wherever smooth wood or metal adjoin rough masonry such as concrete foundations or walls of brick, stone, stucco, etc. Locating these cracks calls for sharp, close, scrutiny and it is essential that all openings be located and effectively sealed to prepare for winter.

b. Materials to be used. All structural crevices and joints leak air as well as dirt and rain. To seal them properly requires a material that remains elastic and will not crumble when a crack changes in size as it does from

summer to winter. Such materials, known as calking compounds, remain elastic, adhere to every kind of building materials, are waterproof and weather resistant. They can be purchased at hardware stores and building supply dealers and are applied with a putty knife or calking gun. Where not exposed to the weather chemically treated crimped paper may be used.

c. Methods to be employed. The home remedies which may be considered as temporary calking measures include the filling of these cracks with oakum, felt, paper, etc. Ordinary putties, cement and mortar, however, should not be used because they dry out, then crack and crumble away under constant expansion and shrinkage.

Before applying regular calking compounds, care must be exercised to clean away dirt and grit to fill the opening and obtain a neat appearance. When in doubt, get in touch with a local calking firm who knows how to do it. The operation is relatively inexpensive.

In addition to openings caused by "settling"<sup>and</sup>/those which occur where wood or metal adjoin masonry, other points that should be checked are the joints around outside package delivery boxes, built-in wall iceboxes, coal chutes, and points where piping and wiring enter the house. Windows permanently shut can be calked where the window fits into the frame, or tape may be used as above described; these methods will save the expense of weatherstrips.

## 5. EQUIP HOME WITH STORM WINDOWS AND DOORS

a. Nature of heat loss. Glass is a rapid conductor of heat. The many square feet of window panes in the average home are therefore one of the prime factors in heat loss. This loss can be reduced as much as 50 percent by

the use of storm windows which create a relatively dead air space between the two layers of glass. Fuel savings thereby realized are indicated in the following table:

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FUEL SAVINGS FOR EVERY 10 SQUARE FEET OF STORM WINDOWS

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	<u>Portland, Maine</u>	<u>Boston</u>	<u>New York</u>	<u>Washington</u>
Gallons of oil	11	9	8	7
Pounds of coal	224	190	171	145
Cu. ft. of gas	2,571	2,194	1,966	1,664

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Storm windows are effective heat savers on any house but particularly so on those that are air conditioned or are exposed to wind. Wind not only increases infiltration, it also rapidly "wipes away" heat that is escaping through the glass itself.

b. Materials to be used. Although some metal storm windows will be available this year, wood storm windows will be much easier to obtain for all types of windows, including metal casements.

c. Methods to be employed. Storm windows should be tightly fitted with clearances of not over 1/8 inch on each edge to permit the wood of the storm windows to swell during wet weather.

It is customary to "fix" storm windows by screwing them in place but for windows of certain rooms, such as bedrooms, they are equipped with inexpensive operating hardware to permit opening and closing for added ventilation when needed.

Ventilation to control condensation between windows when the outer sash is tightly fixed in place may be provided through covered ventilators furnished with the storm sash or by boring small holes in their bottom and top rails. For the best results, the inner or house window should be tighter than the storm window to prevent as much as possible the inside humidity from leaking into the air space. This can best be accomplished by having house windows weatherstripped.

If only a limited number of storm windows can be purchased, they should be put on heated rooms commonly used, and on the sides of the house exposed to prevailing winds. Whenever possible, of course, they should be put at every window opening.

#### 6. EQUIP HOME WITH WINTER VESTIBULES

a. Nature of heat loss. When exterior doors open directly on fully heated rooms, blasts of cold air enter the home each time the door is opened. The resulting heat loss is considerable, especially if the door is on the windy side of the house or is frequently used by members of the family, particularly small children who are constantly going in and out.

b. Materials to be used. Winter vestibules are usually simple in design, of wood construction and have a conventional door at the outside entrance.

c. Methods to be employed. The vestibule should be built large enough so that the outside door may be closed before the house door itself is opened, otherwise, most of the benefit of the temporary entrance is lost. The outside vestibule door, as well as the house door, and any vestibule windows, should be fitted tightly and for severe exposures, suitably weatherstripped.

7. HEAT-SEAL WALLS DIVIDING OFF UNUSED OR RARELY-USED PARTS OF THE HOUSE

a. Nature of heat loss. Although there may not be radiators or hot air registers within rarely-used parts of the house, even the little heat allotted to these areas is quickly lost unless they are heat-sealed.

b. Materials to be used. The same materials are to be used as those employed in heat-sealing other parts of the house.

c. Methods to be employed. Unused rooms should be definitely closed off from the rest of the house so far as heating is concerned. Weatherstrip inside doors leading to these areas where practicable. Calk points where these areas join the house.

Occasionally-used areas should be heat-sealed in the same manner as the rest of the house.

Heated garages should not only be kept at the minimum temperature necessary to safety of the automobile but their windows and doors should be weatherstripped and calked.

8. HEAT-SEAL THE CEILINGS OF UNHEATED BASEMENTS, CELLARS AND OTHER SPACES UNDER THE HOUSE

a. Nature of heat loss. If the basement is not used for living purposes, it should not be heated. It should be sealed off as completely as possible from the rest of the house. Similar precautions should be taken where no basement exists. Unless this is done, the floor of the rooms above will be cold and heat from those rooms lost to the basement. Where there is no basement, enclosed spaces under the house are usually vented. Unless the floors above are heat-sealed as before noted, such vents should be closed in severe weather.

b. Materials to be used. The same as those used in heat-sealing other parts of the house.

c. Methods to be employed. The basement ceiling should be heat-sealed. Doors to the basement should be weatherstripped.

If the basement is used for living purposes, basement windows should be weatherstripped or provided with storm sash and calked. Whenever practicable, basement walls should also be heat-sealed. Doors from a heated basement to the heat part of the house should be left open.

#### 9. HEAT SEAL PARTS OF THE HOME'S HEATING EQUIPMENT

a. Nature of heat loss. A great amount of heat can be lost by radiation from hot water tanks, hot air ducts steam and water heating and boiler pipes and furnaces unless they are properly covered with heat-sealing materials or "jackets."

b. Materials to be used. Insulating jackets for water tanks and pipe and duct covering can be purchased from building supply dealers.

c. Methods to be employed. As a general rule, the covering of heating boilers and similar equipment with asbestos cement must be done by professionals. Steam and hot water pipes should be covered unless radiation from them is used to heat the space through which they run. The same general rule applies to hot water tanks, hot air ducts, boilers and furnaces.

NOTE: Conversion of domestic oil-fired equipment to the use of coal is not being generally urged by the Government for the 1943-44 heating season.

### THE PROBLEM OF LARGE BUILDINGS

Office buildings, schools, churches, auditoriums and public and other similar buildings are major fuel eaters in every community. All should be carefully checked and heat-sealed wherever practical.

Intermittently-heated buildings, such as the nation's 255,000 churches, present a special heating problem. If they are heat-sealed, less fuel will be needed to bring them up to the required temperature. Churches with high ceilings and an unprotected roof should be surveyed for possible heat-sealing. All large windows should be carefully checked to see that glass, particularly leaded glass, and window sash fit tightly. All crevices and loose masonry around the windows should be repaired or calked. Weather-stripping church doors and windows is particularly important.

### WORK CAN BE FHA FINANCED

Through over 5,000 banks, buildings and loan associations, and finance companies located throughout the country, FHA-insured financing is available for the installation of heat-sealing materials and for the conversion of heat equipment to the use of other types of fuel.

Financing: Terms; no down payment; 3 years to pay. Loans are available to property owners whose credit is acceptable to lending institutions. No security, no endorsers or co-makers required. The charge of these loans may not exceed the rate established by the Federal Government.

Materials Covered: (1) Loose-fill, blanket or batt type material, or insulated board, within existing structures. (2) Storm windows, storm doors, or weatherstripping. (3) Materials used in the conversion of heating equipment to the use of other types of fuel. (Loans on these materials for the above-mentioned purposes are specifically excepted from

restrictions on consumer credit imposed by the Federal Reserve Board by Amendment 6 to Regulation W).

Summer Plan: To facilitate prompt action by home owners on these wartime fuel saving measures, many FHA-insured lending institutions are offering a special plan of financing. Under this plan, a property owner may borrow money this spring or summer for heat-sealing or heating plant conversion and begin payments when the heating season begins next fall.

In many homes a complete job can be done for comparatively little money and fuel savings realized will defray the cost in only a few heating seasons.

#### HEAT-SEALING MEANS SUMMER COMFORT TOO

The same materials and methods which keep heat inside the house during cold weather also serve to keep heat as well as dust and soot outside the house during hot weather. This consideration may be used as an additional argument for persuading home owners to prepare for winter during the hot summer months.

#### CAUTIONS

Home owners should exercise great care in buying heat-sealing materials. Whenever possible these materials should be of a quality that will yield a maximum saving in fuel.

Local dealers and applicators handling heat-sealing materials are responsible for the effectiveness of the materials they sell. They form a large established group of firms that are ready to cooperate and serve. Their recommendations on kind, extent, and method of using heat-sealing treatments should be sought and given due consideration when work of this kind is contemplated; cost should not be the controlling factor.



## WHEN WINTER COMES . . .

### Additional heat-conservation steps that should be taken before cold weather strikes

After the home has been winter-conditioned to a high degree of efficiency, there are several measures that can be taken by the home owner himself just as the cold season comes on, and during the winter, to save additional heat. For the most part these measures are very simple, can be applied in part or in whole by everyone, and should be observed in every home.

#### On the House Itself...

1. Install storm windows and storm doors earlier than usual so that you will catch the first cold days that come without warning. Leave them up in the spring until you are sure that the cold weather has passed.
2. Tape the upper sash of all windows, and both sashes on windows that will not be used. Cover the inside of unused windows (in closets, empty rooms, etc.) with heavy paper, corrugated cardboard, or insulation board.
3. Close off unused rooms, and turn off the heat, preparing the connecting doors into the house so as to be as heat-tight as possible (But check with an expert before closing off whole sections to be sure the heating system isn't thrown off balance).
4. Seal crevices around the edges and plug keyholes on outside doors that need not be used during the winter months.
5. Remove screens and decorative covers from radiators so that all heat spreads directly into the room. Do not pile books on a radiator. Avoid placing davenport, shelves, or other sizeable pieces of furniture in front of or around the radiator, as these will serve to prevent the heat from radiating through the room.
6. If the radiator has adjustable directional grilles, slant them downward so that the heat will pour out over the lower part of the room before it rises.
7. In unheated storage rooms, use any crates or boxes stored in those rooms as insulation by stacking them up against the outside wall.
8. If there are any large expanses of wall in the home, particularly on the side of the house that gets the most winter wind, hang tapestries, drapes, or large rugs on these walls, if practicable.

9. Keep all grilles and ducts that transport heat through the house or into a room clean and free from obstructions.
10. If a hot air blower is located near an entrance, aim its radiation away from the doorway, and downward, so that it does not forcibly blow warm air to the outside.
11. Pull down all shades at night, and draw all draperies to cover as much of the window area as possible.
12. If the home has shutters, close them at night, or during cold winds, in order to minimize the effect of the direct wind pressure against the house.
13. Keep garages only as warm as is necessary to the safety of the automobile.
14. Do not waste hot water. Use it sparingly; keep hot water faucets and pipes in good repair and use the hot water heater efficiently.
15. If some heat is released in the basement or cellar, make it accessible to the rest of the house by keeping the inside basement door open, or allowing it to pass through special grilles placed in the floor. The objective of heat distribution is to get the heat used principally in rooms where the family spends most of its time.
16. Do not cool rooms by opening windows and flooding the area with cold air. Instead, adjust the amount of heat that comes into the room in the first place and thus conserve both on fuel consumption and heat usage.

#### On the Heating Plant...

1. Control heat output. Each degree above the temperature actually needed for comfort wastes approximately 3% of the total fuel you use.
2. Make sure heating system is clean and in good condition.

#### Oil and Gas Burners:

Clean the flue passages; with oil burners this should be done at least once, and possibly three or four times, a year. Make a complete combustion checkup. You may be losing too much costly heat up the chimney. See that the draft regulator is properly adjusted. Seal all air leaks.

#### Coal Burners:

Clean the chimney, flue passages, fire pot, and interior parts with a flue brush. Repair air leaks in the smokepipe,

furnace doors, and other parts with insulating cement. Replace broken or rusted dampers, and warped, broken, or burned-out grates. Make sure the thermostat and stoker, if you have them, are correctly adjusted.

3. Have suitable devices installed to control drafts and keep fuel consumption at a minimum.

4. Call a heating expert now (but don't fret if he can't show up immediately), and at least once during the heating season, to see that your heating plant is functioning efficiently. Early attention will save fuel this winter and may avoid costly repairs.

## HANDLING THE PROGRAM

### The Job for Information

Self-evidently, the task here is to encourage everyone in a position to do so to get started early on the work that should be done around the house to prepare it for cold weather.

Those who own their own homes can, of course, be more easily spurred to action than those who rent or lease, for the cash savings which may be made over a period of time through reduced fuel bills usually more than pay for the cost of heat-sealing the building.

Yet tenants may often persuade landlords to improve their property by making it more winter-tight, and in cases of apartments, etc., where the owner supplies the heat the savings argument can be used. Or an understanding can be reached between tenant and landlord to share the cost on some mutually agreeable basis; it's often worth a little more each month to have a more comfortable abode.

Then, too, there are a number of things that can be done at little or no cost, whether the occupant is owner or tenant. One of the most effective is to get the heating plant cleaned up, adjusted, repaired or improved with new controls and other fuel-saving devices.

### Copy Slants

Copy on the "Winterproof Your Home" program naturally should stress these little-or-no-cost and do-it-yourself angles, as well as the investment wisdom of spending a dollar now to get the dollar back several times over in fuel savings. A strong patriotic overtone likewise can be given the appeals, for the importance of fuel in winning the war can readily be made apparent, and every bit saved on the home front helps keep 'em rolling on the fighting front.

Thus, the two main appeals can be summarized in the slogans:

FUEL FIGHTS FOR FREEDOM - CONSERVE IT

KEEP WARM NEXT WINTER - HEAT-SEAL YOUR HOME NOW

In preparing news articles, radio material, etc., it is suggested that the information be presented as specifically, yet non-technically, as possible. "How to" articles, advising exactly what should be done with insulation, storm sash, weather-stripping, caulking, furnace-conditioning, etc., should prove helpful. The data in the foregoing outline was prepared with these points in mind.

Timing

As is also self-evident, this program should be carried on throughout the warm months and well into the heating season, or until such time as further demands upon suppliers of materials or services might boomerang.

Even then, the campaign can well swing over to one of stressing such "do-it-yourself" measures as taping windows, cleaning furnaces, pulling down window shades, cutting off superfluous rooms, etc.

For additional information, write:

Office of Program Coordination  
OFFICE OF WAR INFORMATION  
Social Security Building  
Washington, D. C.

PREPARE NOW FOR WINTER

(A Statement by Secretary Ickes)

War brings with it unprecedented demands for fuel of all kinds. Vast quantities of coal, oil, gas and other fuels are needed to keep the Nation's war plants producing, its railroads and motor vehicles rolling, and its ship ploughing the Seven Seas.

The staggering burdens placed upon transport facilities and industry inevitably create fuel shortages. This year, as the third winter of war approaches, we must face the grim prospect that when cold weather comes, the fuel situation will become more acute. In some localities it may be dangerously critical.

To meet unprecedented demands for coal the Nation's mines have been ordered to operate six full days a week. They must have a steady flow of orders throughout the summer, if these mines are to attain the goal set for production of 600,000,000 tons of bituminous coal and 65,000,000 tons of anthracite in 1943. Railroads and trucks must move a substantial part of this tonnage while rolling stock is free and the movement of farm products is comparatively light. Mines cannot store coal and then ship it when orders are received, nor can railroads permit storage of coal in cars. It must be mined and shipped immediately, which means that when orders are not received most mines must shut down.

Industrial and domestic consumers of coal have a grave responsibility this summer. Coal must be ordered and users must take delivery as the coal can be supplied. Industry must maintain production by ordering coal now and providing storage space for adequate supplies.

The householder has the responsibility of protecting his family's health by making sure that his home will be warm next winter. He can do this by ordering coal now for delivery later. "Hand to mouth" buying must be suspended for the duration and car-lot buyers must again this year guard against shortages which will result as increased demand for war material comes.

The retail coal dealers, with the miners and producers of coal, have done a tremendous job since the war started. That job must be continued. Nothing must occur that will curtail the delivery of coal from the mines to the consumer. The one way to safeguard against a breakdown in the coal distribution system is to order coal early.

Fuel oil, too, will be tight this winter as was the case last year and the principal reason for the shortage will continue to be transportation. Although auxiliary transport such as pipelines and barges will help, these by no means can solve the problem. So your government asks you to act now to get ready for next winter. In case you have oil-fired equipment, remember that production of new equipment has been stopped for the duration. Therefore, have your entire heating plant checked over now. If cleaning, adjustments, or repairs are necessary, make them. You then can be sure of having an

efficient unit ready whenever needed to deliver the maximum heat with the minimum amount of fuel. As final steps before winter comes, fill out and return your ration application promptly after you receive it from your local ration board, then fill up your tank within the limits of the OPA rationing schedule. If everyone in the shortage area does this it will provide a great deal of additional storage space and help build up fuel oil inventories against heavy winter withdrawals.

And no matter what type of fuel you use, there are a number of things you can do to winterproof your home so as to get substantially more heat and comfort from less fuel. Your house may need insulation to check the loss of heat through walls or ceilings or both. Weatherstripping or caulking of windows, installation of storm sash and doors, and like measures, can make a surprising difference in your winter-time comfort, while saving as much as 40 per cent in fuel. Thus you protect yourself against fuel shortages and help make the total supply go farther.

So, I repeat, get more heat from less fuel this winter with insulation, weatherstripping and caulking of windows, with storm sash and doors and similar improvements to your home. By so doing, you help your country and yourself.

\* \* \*

#### NELSON ADVISES "GET READY FOR WINTER"

Heat, like many other things that we formerly took for granted, has become a most precious commodity and will remain so during the balance of the war.

As a nation we have just traveled through a major heating crisis. For some Americans the past winter has been highly uncomfortable, due to fuel supply difficulties.

Now - while several months of warm weather lie ahead of us - is the period during which every home owner and occupant should condition his home so that it will hold the heat as efficiently as possible next winter.

Every home in the nation that uses heat should be thoroughly checked for possible points of heat escape, and each spot remedied. After application of insulation, storm sash and doors, weatherstripping, caulking and other agents, the home occupant can face the winter with the confidence that he will get the greatest benefit from the fuel he burns.

Such action on the part of the home owner or occupant, now, is going to assure his family greater comfort and health next fall and winter - and will be a highly significant contribution to national wartime conservation.

Donald M. Nelson  
Chairman, War Production Board

is probably supplying an even larger proportion of the energy utilized. Coal is required in the manufacture and transportation of the great bulk of the war supplies being manufactured in this country for our own use and for our Allies. It is the basic source of heat and power for industrial and domestic use. Also it is the source of raw materials for many vital military and civilian goods, such as steel, explosives, chemicals and medicines.

Because of the war, it is estimated that 1943 use of coal (as compared to 1942) will be increased 11,000,000 tons by the railroads, 10,000,000 tons by steam-electric generating plants, 12,000,000 tons by the iron and steel manufacturing industry, 3,000,000 tons by domestic heating and similar requirements and 10,000,000 tons by other uses, chiefly in manufacturing plants where war goods are an ever-increasing part of their output. These represent additional requirements over coal consumed in these classifications last year. As of July, 1943, reported conversions from fuel oil alone, since the start of the conversion campaign, totaled the equivalent of approximately 15,000,000 tons of coal.

In the face of these rapidly enlarging requirements, the War has acted to limit the soft coal industry's capacity to supply fuel severely. Reasons for this include:

a. Coal mines suffered an estimated net loss of approximately 60,000 experienced men in 1942 and more men are being drained off constantly to the armed services and other industries; also shortages of new and replacement equipment, due to the critical materials involved, limit productivity.

b. In the field of transportation, manpower and equipment shortages restrict the ability of the railroads to move coal from the mines; all their available equipment must be used to capacity every month in the year if the coal the Nation requires in 1943 is to be moved. Moreover, a number of emergencies in connection with coal transportation have already arisen, due to the War, and more can reasonably be expected. The railroads are heavily burdened with enormous masses of other war freight as well as men and consequently are carrying their huge additional coal burden under heavy handicaps.

c. Retail dealers have suffered such severe manpower losses and have had so much difficulty in replacing equipment that their capacity to distribute coal has been restricted. They must utilize their manpower and equipment evenly throughout the year, in the "off-seasons" as well as during the burning season, if they are to deliver the coal this year to their millions of domestic customers. In the heating season, even if the retail dealer were able to get sufficient coal delivered to him to supply his customers' needs as they burned it, it is unlikely that he could deliver it in 1943. The load must be spread evenly over each month.

3. What has been done and what is being done by Government and industry to help the situation?

The coal industry is cooperating to the fullest extent with the Government to do everything in its power to provide sufficient coal at the places and times required for the successful prosecution of the war.



Among the outstanding changes effected by this joint action to meet wartime coal requirements are:

a. By agreement of mine operators and union labor, the 35-hour base work week of the industry has been extended to 42 hours, thereby making possible the higher production rates of recent months in spite of further manpower losses.

b. By the cooperation of mines, railroads, water carriers and shippers, movement and return of railroad coal car equipment has been speeded and cars are being loaded to the fullest extent, thereby giving the maximum use of available equipment.

c. New transportation routes have been developed and alternative ones have been utilized where necessary to keep coal moving with the least possible interference to the war program.

d. By continuous and careful planning, coal has been made available for all new war needs as these have arisen.

e. The industry and the Government are embarking on a joint campaign to secure the cooperation of consumers in ordering and stocking coal when it is available, thereby reducing the demand peak in the fall and winter seasons. Every ton produced, moved and stored during the summer months will be that much protection against possible fall and winter wartime disruptions for the consumer so protected.

#### 4. What should the consumer do?

The voluntary cooperation of all coal consumers is essential to the success of the 1943 coal program, as indicated in the foregoing. Every consumer who fails to do his part not only threatens his own fuel safety but endangers the entire program. Victory for the United Nations will depend in no small part upon the munitions in whose manufacture coal is vital. The consumer who neglects to provide for his own protection when the coal is available may be undermining the steady flow of coal for the war program.

The coal program embraces both industrial and domestic coal consumers. Its suggestions are directed not only at the regular users of coal but to those who are planning conversion to coal.

Each consumer can cooperate effectively by following the appropriate suggestions below:

##### For Industrial Users

1. Contract for, or order your coal as soon as possible.
2. Allow your supplier the fullest possible latitude as to size and kind of coal, shipping or delivery schedules, and type of transportation equipment used.

3. Seize every opportunity to build stockpiles to the following levels:
  - a. Essential war industries----from 90 to 120 days' supply.
  - b. Other industrial users----from 60 to 90 days' supply.
4. When stock pile is built to adequate size, keep it that way as long as coal is available. It is your best insurance against an emergency.

#### For Domestic Users

(This includes householders, hotels, theaters, stores, museums, small industries, etc.)

1. Order coal now. Store as much this summer as local conditions allow.
2. Cooperate with your dealer. Allow him the fullest possible latitude as to size and kind of coal and delivery arrangements.

## BASIC STATEMENT OF THE FUEL WOOD SITUATION

1. What is the current fuel wood situation in the United States?

The adequacy of the fuel wood supply varies throughout the country and conditions of stringency exist in several areas.

The most critical current reported conditions of shortage exist in the following areas:

- a. The New England States and New York.
- b. The Far Western States of Washington, Oregon, California and Idaho.
- c. The Lake States of Minnesota, Wisconsin and Michigan.

Preliminary reports from New England and New York indicate that cutting of fuel wood may be 25 to 50 per cent below normal. Taking 1941 consumption of fuel wood in the three areas as normal at the estimated figure of 21,470,000 cords, a drop of 25 per cent would result in a reduction of 5,367,000 cords below ordinary needs, the equivalent of approximately 4,025,625 tons of coal. Actually, the Forest Service of the Department of Agriculture had estimated 1943 requirements in these three areas at 27,870,000 cords, based upon the decreased amount of fuel oil available and the assumption that many fuel oil users in districts where wood is accessible would convert to wood.

Unless necessity forces an entirely different approach to the wood problem, it is unlikely that fuel wood shortages, which put added burdens upon the supply of other fuels, will be relieved materially in 1943 because:

- a. Shortages of labor on farms, from which a large part of the wood supply comes, and among woodcutters are likely to continue or become worse.
- b. Equipment deficiencies, including tools and hauling equipment, may continue because of the shortages of critical materials.
- c. Mill waste, in those sections where this is an important part of the fuel wood supply, is being increasingly used locally for industrial purposes.

2. What is the background of this condition?

Wood formed the primary fuel of the Nation for both domestic and industrial use until it was supplanted gradually by coal. Fuel wood consumption increased until the 1870's when both quantitatively and relatively to the use of other fuels it began to decline.

Today wood is used as fuel in some industrial and war plants located in the lumbering areas where mill waste and similar materials are readily available. Its greatest use, however, is as a domestic fuel in rural farm and in

rural non-farm homes in well wooded sections of the country. There are some urban centers, particularly in the Northwest lumbering area, where it finds a substantial outlet as a domestic fuel. For the Nation as a whole, it ranks third (after coal and oil) as a home fuel. The 1940 Census showed that wood was the principal heating fuel in nearly 8,000,000 homes. Nearly two-thirds of the rural farm homes and from 13.9 to 42.5 per cent, depending on the section, of the rural non-farm homes use it. In the West 15.4 per cent of the urban homes used wood as a fuel and in the South 14.8 per cent used it. In the north urban use was in 1.5 per cent of the homes.

Because wood is bulky and its transportation is costly, its use as a fuel is essentially local. Except where the fuel wood supply is a by-product of the lumbering industry, most fuel wood is cut in farm woodlots and sold in the immediate neighborhood.

Most of the blame for the present stringency of fuel wood supplies is laid upon manpower shortages, which afflict most industry similarly. Farmers, already pressed to increase production of agricultural and animal products, have slighted their output of fuel wood.

Reports indicate that a good deal of wood cut, which is materially improved as fuel by being permitted to season six months or more, has been used currently instead of being stored for use next winter.

A cord of seasoned wood is equivalent to from half a ton to a ton of coal, depending on the type of tree from which it is cut. Wood shortages tend to increase the consumption of coal because those who might use wood are forced to substitute coal as fuel.

The places where the wood supply is considered adequate are in those farm or rural non-farm areas where the climate is mild, as in the south, and where the fuel user can secure his own supply himself.

The Agriculture Department's Forest Service estimates that annual consumption of fuel wood, prior to 1942, approximated 71,000,000 cords. It estimates consumption requirements for 1943 at 86,000,000 cords although, under present conditions, it does not expect production to reach that figure.

3. What has been done and what is being done about the situation by Government and Industry?

Because of the diffuse and local character of the industry, direct contacts with any large segment are very difficult. Federal Government representatives are working with state and local officials, where possible, in an attempt to stimulate fuel wood output.

Other steps taken to increase output and to protect the supply have included:

a. Changes in ceiling prices on fuel wood where essential to increase production.

b. Employment of prison labor to cut fuel wood in the State of Washington, a project which is proving helpful.

c. Encouragement of attempts to stimulate local community action or action by clubs and other groups to organize consumers and volunteers to utilize available time in cutting wood for next winter's use.

d. Encouragement in following sound conservation policies in fuel wood cutting to avoid unnecessary waste of wood valuable for other purposes and to actually improve the remaining stand of timber.

e. Preparation for the institution of rationing of fuel wood in Washington, Oregon and certain northern counties of Idaho, if that becomes necessary.

#### 4. What can the consumer do?

The fuel wood consumer should:

a. Make every attempt to secure his supply of wood for next winter, building up his stockpile in the months when he can secure the wood and season it.

b. Exercise ingenuity in devising ways to make sure of his wood supply even to the extent, where possible, of cutting it himself or making arrangements to have it cut and delivered.

The person living in an area where fuel wood is available should:

a. Consider substituting it for less available fuels.

b. Use it, where possible, as a supplementary fuel, as in fireplaces and stoves, to relieve the strain upon production and transportation of other fuels as much as possible.

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