THE ARSENAL OF DEMOCRACY Series

WAR AGAINST WASTE

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Memo to Editors:

We are enclosing a series of articles on the Government's efforts in conservation, simplification, substitution, and salvage to make more of our vital raw materials available for defense production. "War Against Waste" is part of the general series, "The Arsenal of Democracy." You may use it in any form.

Robert W. Horton,
Director of Information.

DIVISION OF INFORMATION ★ OFFICE FOR EMERGENCY MANAGEMENT ★

OFFICE FOR EMERGENCY MANAGEMENT-WASHINGTON, D. C.

WAR AGAINST WASTE

Why Conservation?

In the coming months more and more planes, tanks, and guns will roll off the assembly lines; more merchant-men will slide down the ways.

In the coming months—on the other hand—fewer automobiles and refrigerators and washing machines will issue from our factories.

It could not be otherwise. Even the greatest industrial nation on earth cannot have its cake and eat it too. The President, the Congress, and the people faced a choice and made it—all-out defense comes first, other things must be postponed temporarily.

In our Arsenal of Democracy the machines, the materials, and the men that have been turning out the goods of peacetime will be—and are being—switched over to the job of producing for defense. This means dislocations. And it means shortages of raw materials for civilian use. That, simply, is why the Government must ask all citizens—as consumers—to face certain sacrifices in their standard of living.

How consumers will feel the pinch can be predicted with some degree of accuracy. Car owners, for example, will have to make old autos do a year or two longer. They will have to reduce their driving to save tires and wear in general. For the same reasons they will be obliged to handle their cars more carefully. There will be less stainless steel and chromium for the sinks and cabinets of modern kitchens.

Fewer refrigerators, washing machines, vacuum cleaners, and oil burners will be available for consumers to buy. And those that are produced will be without frills or "extras," stripped down to a few simplified models using not a bit of unneeded metal, rubber, or cork.

Housewives will be asked to save all salvagable household waste. As the months roll by fewer paper bags will be available, and consumers will be asked to carry purchases home rather than have them sent.

Industry also will feel the effects of this backwash of defense production. Some factories already have been forced to curtail operations for lack of materials. Others are beginning to put men and machinery to work producing shells instead of sewing machines, or blitz buggies instead of automobiles.

Substitute materials will be sought to replace materials diverted to defense work.

Reclaimed materials and old machinery that ordinarily would lie around the scrap heaps and junk piles will have to be utilized as shortages develop.

Simplification of manufacturing processes and consumer goods will be intensified in the interests of efficiency and increased production. That will mean greater emphasis on straight production, elimination of odd sizes and off-sizes, and concentration on as few models as practicable.

The wealth of America

To the man in the street this sudden retrenching after a year of "defense prosperity" will not be easily understood. He has been brought up in the tradition of a rich America—an America not paved with gold bricks, perhaps, but one where goods were plentiful and living standards high. He is accustomed to the America of 1939, to take an "average year," when nearly 3 million cars were produced, 57 million tires, 22 billion gallons of gas. He is accustomed to seeing 2 million electric refrigerators made every year, a million vacuum cleaners, a million and a half washing machines. He is used to well-stocked department-store shelves, shops richly supplied with goods consumers want to buy. A waiting line is unknown to his buying experience.

America is also richly endowed with raw materials. As the world's greatest producer of minerals and petroleum, this country has almost half of the total world supply of iron, coal, oil, etc., coming from American mines and wells. Those raw materials pour in greater quantities into our smelters and mills and factories than into all of the rest of the world's industry combined.

Stacking America's production against what comes out of Hitler's Europe today shows America, on the surface, to have little cause for worry. For every barrel of oil produced in Europe before the war, we produced 20. Our copper mines yielded 4 pounds of copper for every pound produced in Europe. In a few months we will have a steel capacity of 3 tons for every 2 tons available to Hitler. We produce three times as much aviation gasoline as all Europe combined. These are the basic raw materials of war.

Then why conserve?

With such wealth in raw materials and supplies, why cut down?

There are three reasons: America's dependence on imports of certain raw materials, huge material requirements for defense, and the necessary shifting of men and machines into defense production.

Not all of the materials required for American production are found within our borders. There are some 14 imported raw materials for which we are substantially dependent on outside sources. One random example is manganese: We produce less than one percent of the world's supply, but use close to a fourth of the total world production. Another is nickel. We require half of the world's production of nickel to produce special steels and alloys, but only a few hundred tons are available from American sources.

Chromium, tungsten, antimony, tin, mica, and rubber are only a few of the raw materials indispensable to American production which come from ports halfway around the world. For those things America is an economic dependent on the rest of the world, just as other countries depend on America for a large proportion of their finished goods.

In peacetime, ships of every nationality unload these strategic raw materials at American ports with time-table regularity. War has taken a large portion of the foreign-registry bottoms out of this trade in order to carry armaments, and many of these have been lost by sinking and capture since the war started.

The American merchant marine, together with what foreign ships could be spared, has taken over the job of filling the gap and seeing that we are kept supplied with the

three and a half million tons of essential metals and materials needed annually for defense which must be brought here in freighters.

The effect has been to reduce the amount of materials available for civilian production. Nonessential imports (tapioca is a good example) have been cut off or reduced by a process of allocating ship bottoms, and defense materials are given first call on every inch of shipping space, with civilian requirements in second place.

A war of materials

But shipping shortages don't completely account for the need to cut down. This war, more than any war before it, is a war of materials. More specifically, it is a war of metals. And the metals with which the war is being fought are exactly the same metals that make washing machines and automobiles and refrigerators.

Consider these examples:

The same aluminum that makes pots and pans for the kitchen, or streamlined trains for the Nation's railroads, or window frames for modern office buildings, is needed to make fighters and bombers for the Nation's air force. It takes a pound of aluminum to make a skillet; to make a 4-motored heavy bomber requires the equivalent of about 20,000 of these skillets.

Or take sheet steel. There are something like 140 pounds of sheet steel in the average refrigerator. But all of the steel used in the 2 million refrigerators produced in 1939 would make only 20,000 light tanks. A 28-ton medium tank uses as much steel as 3 average-sized five-room houses.

The average-sized automobile tire takes about 14 pounds of rubber. A 28-ton tank requires enough rubber to make about 125 tires, and the defense program calls for thousands of such tanks. A 2½-ton army truck requires 525 pounds of rubber, enough to make about 37 car tires.

The tremendous quantities of raw materials that must be poured into defense factories in the months to come will bite deep into the supplies for ordinary consumer goods. Shortages already are shaping up in almost all the metals—like aluminum, steel, copper, zinc, and others. There will be more to come as defense production rolls up.

Even if materials were plentiful, the manufacturing facilities would be lacking for both all-out defense and "normal" civilian production. Machines that make kitchen gadgets may have to be converted to the manufacture of parts for machine guns. Automobile assembly lines must be relied on for bomber parts. Typewriter factories turn to the manufacture of rifles.

All the way down the line, from chemicals to optical equipment, from radios to refrigerators, factories are being shifted over to the production of goods for defense. Likewise, the skilled machinist who a few months ago made dies for automobile bodies or designed intricate office machinery or operated a lathe is today on an army truck assembly line or putting together the firing mechanism for antiaircraft guns.

These shifts and realignments of men and machines will continue as the defense program swings into high gear. And as shortages develop, as stocks are not replaced, the consumer will inevitably feel the pinch.

To alleviate that pinch as much as possible and to make sure defense has everything it really needs—these are the "whys" of conservation.

WAR AGAINST WASTE

The Solution of Shortages

We can't have all-out defense production and full civilian production too. There simply isn't enough to go around. So it's first things first: Actual, immediate defense requirements must be met, and what is left will be distributed equitably for production of civilian products.

It follows that we shall have to make the most of what we have, "make a little do more." There are four major approaches to that objective: Conservation, simplification, substitution, and salvage.

Conservation

CONSERVATION means to save, to make things last longer and do more. Consumers must learn to take better care of what they have—make their automobiles and refrigerators and washing machines do a few years longer. They will be asked to drive more carefully to save their tires. Repainting or repairing old furniture or household equipment, rather than replacing it, will become the rule rather than the exception. Officials in Government have already taken necessary action to assure complete and adequate supplies for maintenance and repair of household equipment, radios, automobiles. Manufacturers are cooperating by putting more stress on care and operation of durable goods sold to consumers. The rest is up to the man-in-the-street. He must learn not to waste, not to neglect repair and care of the household washing machine and the oil burner in the basement, not to drive his car at high speeds or to keep his radio in operation when no one is listening to it.

Simplification

SIMPLIFICATION is cutting out the frills and furbelows. It means doing away with chromium trim on automobiles, fancy nickel plate on refrigerators and washing machines, all the unnecessary extras which add to the appearance but not to the usefulness of consumer goods. This means fewer models and styles, and less variety in the goods consumers buy. Instead of 10 different models in sofas, for example, the furniture shopper may have to make her choice from 3 or 4 styles. Radio tubes may be reduced from several hundred different types and models to a fraction of this number. Container sizes may be simplified so that there will be only 4 or 5 different sizes for the housewife to choose from instead of the bewildering array that she finds on her grocery shelf today. Simplification will be a job for industry, which by concentrating on a few models will be able to stretch what materials it has to produce the largest possible number of units with the greatest amount of efficiency and economy and a minimum of waste.

Substitution

SUBSTITUTION is already well under way in production of everything from automobiles to kitchenware. Critical or strategic materials no longer available for consumer goods are being replaced with available materials that do the job almost as well—and in many cases just as well or even better. Plastics—those types not needed for defense—may be used in place of such strategic materials as aluminum, steel, and rubber. In the kitchen, wood, glass, porcelain, and enamelware are replacing aluminum and stainless steel. Cotton and synthetics are taking the place of silk. Some products previously packed in tin cans will be put up in glass or paper-composition containers. Aluminum and tin foils which used to wrap candy bars and chewing gum have been replaced by specially treated paper wrappers. Laboratories in industry and in Government have been assigned the job of finding substitutes for those raw materials that have first call on defense. Every effort is being made to maintain quality and to hold down increases in price. Out of this research may come new products—new materials that may permanently improve the quality of consumer goods.

Salvage

SALVAGE means collecting the Nation's scrap and waste supplies and rerouting them back to smelters and blast furnaces to meet the insatiable appetites of our defense and civilian industries. The procedure is not new. Scrap collection is normally a billion-dollar industry. It reaches down into small towns and villages. Up to a quarter of a million workers make their living collecting "junk," then selling it to dealers who start it on its way to industry.

But on America's farms, in America's backyards, in America's automobile graveyards lie thousands of tons of scrap metals, scrap rags, scrap paper, scrap rubber which can be turned into the materials that make tanks and guns and planes and keep the civilian economy alive and running. There already has been an aluminum collection campaign for salvaging this scrap through cooperation of every patriotic citizen. Now we need more materials almost as badly—paper, metals, rags, and others.

Government also is using these techniques to save materials in its own purchases. It is doing this by alteration of FEDERAL SPECIFICATIONS.

Federal specifications are the Government buying guides. When the Government buys typewriters or building materials or airplanes, it states exactly how these products shall be made and what materials shall go into them. Today, like the housewife in the home, Government buying agents must forego as far as possible such things as aluminum, copper, and zinc in the products it orders. Specifications have been changed wherever possible to conserve the raw materials needed for defense.

For instance, the Army is now having thousands of truck tires retreaded each year instead of buying new ones. Copper and aluminum are being eliminated wherever possible in Government construction. A new type of typewriter ribbon is being tried out in Federal offices because the previously used ribbon cloth is needed for the manufacture of balloons for the Army and Navy. Fiber wastebaskets—not the old type metal ones—now are specified in Government orders.

All told, 26 emergency "alternate specifications" have already been put into force to conserve such strategic materials as zinc, chromium, bronze, cork, nickel, brass, aluminum, and steel alloys.

WAR AGAINST WASTE

Conservation in the Last War

Conservation is not new to America. There has been an organized campaign to conserve our natural resources almost since the turn of the century. But the only precedent for conservation of finished goods—consumer goods—is found in the experience of the World War.

There were two units handling the job of conservation in 1917–18: The Commercial Economy Board, set up in March 1917; and its successor, the Conservation Division of the War Industries Board, created in May 1918. These units worked for economies mostly through standardization and simplification, but salvage campaigns also were organized. Every large store in the country maintained receptacles for collection of peach pits valuable for use in chemical warfare. Old paper was saved and collected for reprocessing. People were urged to carry their own packages home from the store, and substitution of paper wrappers for pasteboard cartons and wooden packing cases resulted in a large savings of materials and in conservation of transportation space.

The Commercial Economy Board was concerned primarily with these kinds of savings. Among other things, it saved enough bread to feed 200,000 people by eliminating the practice of returning unsold bread for disposal as waste; succeeded in getting merchants in 315 large cities to restrict deliveries to one a day; got merchants in 189 cities to establish cooperative delivery systems; and carried on a widespread campaign for consumers to carry packages home instead of having them delivered.

In May 1918, the Conservation Division was set up, with the special job of effecting economies through reduction in number of styles and types of articles. Its accomplishments could fill several pages. Here are a few of the things it marked up to its credit:

Shoe colors were reduced from upwards of a hundred to three shades—black, white, and a single shade of tan. Likewise styles were simplified. The result was a saving in leather, dyes, boxes, shipping space, labor, and transportation.

Simplification of styles and colors of sweaters and other garments reduced the quantity of wool used in these textiles by one-third, enough to provide cloth for 900,000 uniforms.

Substitution of paper wrappers for pasteboard cartons and wooden packing cases in the hosiery and underwear trade alone was estimated to have saved 17,312 freight cars of space. And it had the added result of releasing pasteboard for the manufacture of containers previously using tin plate.

In 6 months the Division saved 50,000,000 yards of wool, 260,000 tons of tin plate, cut styles of stoves and heaters 75 percent, eliminated 5,500 styles of rubber footwear, cut tire varieties from 287 to 32, reduced washing machine styles from 446 to 18, plows from 312 to 76, harrows from 589 to 38. It did such things as increasing the amount of thread on spools, eliminating colors for men's, women's, and children's hats, limiting bathing cap manufacturers to one style and one color, and cutting the styles in buggy axles from over 20 to 1.

Pens were cut from 130 to 30 styles, only 4 types of alarm clocks were permitted, and colors of typewriter ribbons were reduced from 150 to 5. Reduction in colors of house paints, enamels, and varnishes, and elimination of intermediate sizes of containers, enabled these manufacturers to operate with 25 percent less materials. Brass, bronze, and copper caskets were forbidden, the variety of steel caskets limited, and styles in wooden coffins reduced by 85 percent. This program alone accounted for savings of 6,000 tons of steel, 285 tons of tin plate, 275,000 pounds of copper, 90,000 pounds of brass, 74,000 pounds of bronze, 70,000 pounds of pig tin, 17,000 pounds of nickel, 2,200 tons of coal, and 212,000 yards of wool fabrics.

Recommendations of the Conservation Division for limitation of styles and types of articles could not be enforced by direct statutory action. Usually they were put into effect through cooperation with industries organized in units. However, failure by an individual manufacturer to observe the recommendations could result in the Priorities Commissioner withholding materials and transportation facilities to recalcitrants.

All told, at the time of the Armistice, the Conservation Division had prepared conservation programs for 269 industries, estimated to be yielding an annual savings of 15 percent in the quantity of materials used in the country.

As a follow-up to this, a national campaign for elimination of waste developed after the war which has continued through the Division of Simplified Practice in the Bureau of Standards. This Division attempts, through research, consultation, and voluntary cooperation, to get reduction of sizes, varieties, types, or grades of products. To date, 181 simplified practice recommendations covering everything from blackboards to blankets have been developed through the mechanism of manufacturer-distributor-consumer advisory committees working in cooperation with the Bureau. These recommended practices are generally adopted by industry in the interests of efficiency and economy—mostly on the assumption that in general 80 percent of the demand for a given product is confined to 20 percent of the sizes or varieties manufactured.

WAR AGAINST WASTE

What's Been Done in Other Countries

Conservation is an essential part of any war economy. That is true of all countries, whether at war, preparing against war, or attempting to weather the after effects of war. Because they illustrate how the problem has been met in other countries, conservation techniques in England, France, Japan, Germany, and Italy are outlined below, so far as the information is available.

England

A Nation-wide conservation program, called the "National Salvage Effort," functions through 1,600 local authorities organized by law and staffed with civilians. Each authority is told what materials are required, and given complete instructions for collection and disposition of waste, scrap metals, and "household bones." They are under supervision of the Salvage Department of the Ministry of Supply, to which monthly reports must be submitted on results of each local program. That way the Ministry of Supply keeps informed of movement of waste materials to industry and has a ready index to the availability of supplies.

Local authorities are responsible for collection and marketing of scrap, and frequently utilize the municipal refuse collection facilities, supplementing these with voluntary efforts by such organizations as women's groups, boy scouts, etc. All money received from the sale of scrap reverts to the community for local relief purposes.

In addition to the regular monthly collections, special campaigns have been organized similar to the aluminum campaign in this country.

To publicize the program, leaflets, posters, press releases, films, and radio programs have been utilized, while a house-to-house canvass of local householders to advertise the program is sometimes undertaken by cooperating women's groups or clubs.

Success of the program is illustrated by these figures: Iron and steel scrap is collected to the extent of one pound per person per month; 40 shiploads of paper were saved last year; enough metal to build 16,000 tanks; enough kitchen waste to feed 100,000 pigs.

Official regulation of supplies takes several forms:

First, there is absolute control over exports through a rigid licensing system.

The Ministry of Supply maintains an industrial section to advise manufacturers on distribution of waste materials and to direct them to sources of supply.

Departmental salvage covers several Government divisions. For example, the Ministry of Food salvages food supplies damaged by enemy action. The Ministry of Home Security salvages timber, metals, etc. from demolished buildings. The War Office and other branches of the fighting forces have special salvage units working in cooperation with other Government divisions.

There is also a rigid rationing system, and a program of substitution and simplification.

Paper conservation has received special attention, with waste paper collection on a country-wide basis. Use of paper is controlled and prices are under statutory control. Successive orders have prohibited issuance of new periodicals, restricted poster sizes, eliminated use of paper for wrapping and packing, and prohibited manufacture of certain classes of paper goods, such as paper cups, napkins, confetti, etc.

France

Since the collapse of the French armies the "Central Bureau for Industrial Products" has taken over supervision of all domestic conservation in France. Units of the Bureau have absolute control over supply and use of all raw materials, effecting this control through a licensing system.

Whenever an industry requires raw materials in which a shortage exists, a formal declaration must be filed specifying the materials needed, how they are to be used, and what quantity of finished goods will be produced. The control extends to proposed construction of new plants in which the materials are to be used.

In addition, the Bureau engages in research on substitute materials.

Definite prohibition against use of nonferrous metals for such things as kitchenware manufacture, works of art, building ornamentation, etc. has been ordered through a series of decrees.

Other decrees make it punishable by law to burn, destroy, or throw away such household waste as rags, old papers, rubber, and similar items. Collectors and dealers in waste must dispose of these materials through a Government office which controls sales to factories. Prices and terms of sale are established by law.

Also set up by decree is "A Service for the Recovery and Utilization of Waste and Old Materials." This agency was assigned the job of organizing machinery for public collection of waste materials, providing for their use and working with industry and local officials for development of the program.

Germany

Germany already had a well-functioning conservation program operating at the beginning of the war, a program which in part dated back to the end of the last war. Present practices are merely a continuance of that program with added special measures that have become necessary with the progress of hostilities.

Control over collection, resale, and final use of all scrap metal and waste paper is similar to that of other countries, but more stringent. Public participation in the collection program is an integral part of the program. House-to-house waste collection is carried out on a broad scale, and collection centers have been established both in communities and in industries. Industries are compelled to donate waste products, but public participation is voluntary. There are stiff penalties assessed against industries withholding pewter, bronze, and brass objects.

School children have been drafted for house-to-house collection of scrap paper, mostly old magazines and newspapers. Prizes and other

inducements are offered to certain industries for collection of paper bags where they are widely used, such as in the cement industry. Potato plants and other materials have been used on a small scale as substitutes for wood pulp in paper manufacture.

Export of scrap metals and waste is under a licensing system, having the effect of complete embargo on export of all necessary scrap materials. Manufacturing wastes cannot be disposed of without a government permit, while manufacturing residues such as ashes, slags, scrapings, etc. can be sold only to scrap dealers or metal manufacturing plants which had regularly been buying these materials.

Italy

There is a public scrap collection campaign in Italy, taking such form as collection of tin milk bottle caps by school children.

Substitution of cardboard and paper containers for food and drugs has been put into widespread practice. Other substitutions include glass jars, and wooden containers for jams, marmalade, tomato juice, etc.

Japan

There is no public scrap collection program in Japan mostly because existing rigid controls have the effect of preventing any great accumulation of scrap. Nevertheless, collection is made on a voluntary basis by patriotic groups which turn over their collections to the Government.

Exportation of all metal scrap is under a licensing system. There are similar controls over production, importation, and use of all metals and paper.

Conservation is accomplished by far-reaching regulation over all raw materials—new and used—from the time of importation or production to final processing and consumption. The Government controls disposal of all metal scrap, requiring that it be routed through a central control company which is under orders as to when and how to get rid of the materials, what amount should be sold, and what price should be paid. Curtailment of distribution and consumption can be ordered at any time by arbitrary action of the Government.

Paper conservation includes a ban on publication of newspapers and magazines not deemed to be of sufficient national importance to justify use of paper required. By agreement the press publishes no papers on special holidays, no evening papers on 12 national holidays, and cuts out at least 1 morning and afternoon paper per month.

As an indication of the strict controls exercised over raw materials, tin cannot be used in manufacture of containers for tooth paste and toilet goods, or for containers for foodstuffs, cooking, and household utensils, ornaments, smoking equipment, stationers' goods and toys—except as these goods are required for military purposes or for export.

WAR AGAINST WASTE

American Conservation to Date

Conservation, simplification, substitution, and salvage already have become familiar terms in America's national defense vocabulary. As in other countries, there has been licensing of strategic raw materials to control exports; a system of priorities established to insure an adequate supply of the raw materials needed by defense; allocations resorted to; stock piles of critical materials built up; efforts begun to stimulate the flow of scrap materials; simplification programs worked out; substitutions made, etc.

Measures for conservation of consumer goods first took form when the defense program was put on an emergency basis.

The Conservation Section of the Office of Production Management was the original agency established to deal with problems of conservation, salvage, simplification, and substitution of strategic metals and other materials essential to defense. One of its main functions was to insure the regular flow of strategic reclaimed metals into defense industry. Likewise, it encouraged substitutions.

The unit succeeded in making substantial savings in strategic materials.

Tin plate on tin cans was reduced by 10 percent, resulting in a saving of 4,000 to 5,000 tons a year. Elimination of nonessential uses of tin cans by paint companies, tobacco companies, etc. will save another 3,000 tons per year. Still another thousand tons will be saved through elimination of tin in the manufacture of tubes for shaving creams, and other products.

Forty-two thousand tons of zinc will be saved through voluntary action of galvanizers.

A quarter of a million tons of ship bottoms per year from the Far East have been made available for importation of rubber, chrome, manganese, and other strategic materials by reducing imports of tapioca and ilmenite from India. Corn will now be used to make the starch previously made from tapioca.

Government agencies concerned with housing were given a list of strategic materials used in construction work, and a list of substitute items.

State governors offered their cooperation in using substitute materials in all state construction work in place of any strategic materials.

Simplification programs were worked out for several industries, such as the bicycle industry. Cooperation was given the steel and automobile industries in reducing the variety of products offered, and in eliminating materials used for such nonessential purposes as trim and decoration. The section also was instrumental in effecting increased salvage of junked automobiles, supported the household paper salvage campaign, and was active in similar undertakings.

The Government Conservation Branch, under the Division of Purchases of OPM, revised nearly 70 Federal specifications to conserve such critical materials as aluminum, copper, zinc, brass, nickel, chromium, tin, and rubber. For example, it revised the specification for flat tableware so that plain carbon steel, plated with chromium, nickel, tin, or silver, is now purchased by the Government instead of the former silver-plated nickel-brass and nickel-chromium stainless steel.

Specifications for construction of Army cantonments and defense housing have been changed to conserve essential raw materials. Other specifications which have been revised include those for laundry and refrigeration equipment, certain types of stainless steel hospital equipment, and many articles containing silk. Specifications for Government transmission lines now call for copper conductors instead of aluminum. Fire-fighting equipment purchased by the Federal Government has as little aluminum, copper, zinc, chromium, and nickel as possible, and new laundry equipment used in Government hospitals, Army cantonments, etc. no longer is made of aluminum or of metals using alloys that are scarce.

Other work on specific phases of the conservation problem was done by units in the now reorganized Office for Price Administration and Civilian Supply, in the Consumer Section of OPACS, in the National Bureau of Standards, and in the Consumers' Counsel Division of the Department of Agriculture.

In addition to these Government activities, industry itself has already done a great deal toward conservation of critical supplies. As an example, steel types have been reduced from 1,000 to 225 since the defense program got under way. Other industries have been doing equally effective jobs on conservation of raw materials for the double purpose of speeding up defense production and making possible the utmost utilization of those materials available for civilian goods.

WAR AGAINST WASTE

Conservation--- Today and Tomorrow

Today . . .

The Office of Production Management is forming a new Bureau of Conservation. Its function is to bring under one head and one Government unit all of the work on conservation, substitution, alteration of specifications, salvage, and simplification of design which had previously been done in several different agencies.

The Bureau will utilize to the fullest possible extent the facilities and personnel of existing Government agencies experienced in the general field of conservation, such as the National Bureau of Standards. It will absorb the work previously performed by the Conservation Section of OPM; the Government Conservation Branch of the Division of Purchases, OPM; and the conservation units in the former Office of Price Administration and Civilian Supply. The Bureau will cooperate with the Consumer Division of OPA where consumers' interests are affected by any proposed program for simplification of a consumer product.

The primary objective of the new Bureau is simple: To stretch as far as practicable, by all possible techniques, our available supplies of raw materials for the twin purposes of making sure that the Arsenal of Democracy is supplied with every pound of material to meet operating requirements and at the same time keep the civilian economy on a strong operating basis.

The Conservation Bureau will work along several lines, many of which are but a continuation of work already undertaken by other Government agencies. These include revision of Government specifications; avoidance of waste in industrial practices; promotion of the use of substitute materials wherever more plentiful substitutes are available; collection of household salvage; simplification of consumer goods; etc.

Cooperation of State and municipal governments, of industry, and of the public will be solicited by the Bureau. It will work as frequently as possible through the Commodity Branches of OPM, dealing wherever feasible with existing defense industry advisory committees. Finally, it will establish a liaison with the engineering profession and with industry through the formation of an Engineers' Defense Board, to be made up of ranking members of six engineering societies—civil, mechanical, chemical, electrical, automotive, and mining and metallurgical.

. . . . and Tomorrow

But conservation does not stop with the establishment of a new Government bureau. The need for conservation will become greater as the months roll by—months dominated by defense production. Demands on our existing supplies of raw materials will reach record proportions when tanks, planes, and guns begin to come out of the arsenals and factories in flood proportions. Today's steps to cut down on civilian production mark just the beginning; tomorrow will bring more severe shortages that will be felt by every consumer in the country.

What has been done so far can be listed under the headings of stock piles, priorities, allocations, and conservation.

Rubber, manganese, tin—52 raw materials, all told—are being accumulated in national safe deposit piles—"stock piles" the trade calls them—for use if and when a point is reached where there is not enough production of raw materials to meet immediate defense requirements. Under a coordinated Government purchase program, those materials are being stored away by the Navy Reserve, the Army-Navy Munitions Board, and the Office of Production Management.

Rubber is a good example. For more than a year now we have been buying every pound of rubber we could get our hands on. Under pressure from our Government, production in the Netherlands East Indies has been increased. Imports are at record levels. The Government now buys all rubber imported and Government and industry are sharing the responsibility of storing hundreds of thousands of tons. Meanwhile consumption has been reduced and the public soon will be asked to do its share in getting the last mile out of auto tires.

Priority controls of one form or another are now in effect for 35 raw materials. They insure that all raw materials needed for defense will be met; that steel won't be going into refrigerators when it is needed in tanks, or that aluminum won't go into pots and pans when it's required for planes.

Allocations provide the method for distributing raw materials equitably to industries under priority control. Once the industry is found to be filling defense requirements and is given the proper priority rating, the raw material is allocated to it on the basis of that rating. Similarly, allocations of raw materials are made to consumer-goods manufacturers after defense needs have been met.

Conservation, logically enough, fits in with the problem of stock piles, priorities, and allocations, because once these methods are resorted to for insuring full production of defense goods, shortages are inevitable for production of consumer goods.

As the defense program speeds up, these problems will be accentuated and intensified. They will be brought directly home to the consumer when he finds that he can't buy certain products, or that those products are made of an unfamiliar type of material. Consumers will be asked to cooperate in salvage campaigns, in proper care and maintenance of their possessions, in accepting patriotically the sacrifices that will be asked of them. In return, the Supply Priorities and Allocations Board has promised to root out hoarding; to prevent unjustifiable defense demands; to route the available supplies of materials on an orderly and equitable basis; to curtail the less essential operations of *all* industry rather than permit less essential industries to perish entirely; and to protect consumer standards in every way consistent with our prime national objective: The defense of the United States and of all those who are fighting aggression.

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