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SIDE-BY-SIDE COMPARISON OF PROVISIONS CONTAINED IN S. 870, S. 871, and S. 872, TO COMPARABLE PROVISIONS IN S. 333, S.491, AND S.503

The following is a comparison of the major provisions contained in S. 870, S. 871, and S. 872, to comparable provisions contained in S. 333, S. 491, and S. 503.

1. Comparison of S. 870 to S. 333, S. 491, and S.503.

MOBILE AIR-CONDITIONERS

S. 870 regulates auto air conditioner servicing, to ensure that chlorofluorocarbons (CFCs) are recaptured and recycled, and not unnecessarily vented to the atmosphere. About 30% of U.S. emissions of CFC-12 originate from auto air conditioners, and about three-quarters of those emissions occur during maintenance and recharging. S. 870 also eliminates the sale of CFC-containing air conditioner recharge cannisters smaller than 30 pounds, thus effectively limiting the sale of CFC-containing air conditioner fluid to bulk purchasers (i.e., servicers) only. Finally, S. 870 requires that servicers recharging auto air conditioners with CFC-containing fluids first test the system for leaks and repair those leaks and repair those leaks.

S. 333, S. 491, and S. 503 do not have comparable provisions targeted specifically to mobile air-conditioners and eliminating the sale of recharge cannisters smaller than thirty pounds, but both S. 333 and S. 491 have general provisions that might have applications in this area.

FIRE EXTINGUISHERS FOR CONSUMER APPLICATIONS

S. 870 bans the sale and distribution of fire extinguishers for routine consumer applications containing halons or other ozone-depleting substances, unless required by federal law. This removes from the market a major source of releases to the atmosphere of halons.

S. 333, S. 491, and S. 503 do not have comparable provisions targeted specifically at eliminating the sale of fire extinguishers for consumer applications, but both S.

333 and S. 491 have general provisions that could indirectly affect those products.

NONESSENTIAL CONSUMER PRODUCTS CONTAINING CHLOROFLUOROCARBONS

S. 870 bans the sale and distribution of non-essential consumer products that are capable of releasing ozone-depleting substances into the atmosphere. These products include chlorofluorocarbon-containing plastic party streamers and noise horns, chlorofluorocarbon-containing cleaning fluids for electronic and photographic equipment, and others.

S. 333, S. 491, and S. 503 do not have comparable provisions.

LABELING REQUIREMENTS

S. 870 requires the labeling of consumer products that contain, are produced with, or are produced from an ozone-depleting substance. These labels would warn the purchaser that the product's contents or manufacturing process pose a danger to the stratospheric ozone layer, and that depletion of the ozone layer could lead to increased risk of skin cancer and damage to natural systems, including food production.

The labeling provisions in S. 333 and S. 491 are similar. S. 503 has no similar provision.

CHLOROFLUOROCARBON AND HALON RECLAMATION PLAN

S. 870 requires the Secretary of Commerce to issue a plan to provide for the most effective way of ensuring widespread reclamation, recycling, or regulated disposal of ozone-depleting substances, and requires that all consumer products containing an ozone-depleting substance to have an aperture that allows such substances to be removed without release to the atmosphere.

S. 491 requires the Administrator of the Environmental Protection agency to promulgate regulations establishing standards for the recapture, recycling, and safe disposal of ozone-depleting substances; these regulations must mandate, among other things, that goods containing an ozone-depleting substance in bulk be equipped with a servicing aperture that will allow recapture of the substance without release to the environment.

S. 333 and S. 503 contain no comparable provisions.
(S.333 has aperture provision...please note here) *****

2. Comparison of S. 871 to S. 503.

MANUFACTURES' EXCISE TAX ON CHEMICALS THAT DEplete THE OZONE LAYER

S. 871 amends the Internal Revenue Code of 1986 to impose a manufacturers' excise tax on certain chemicals that deplete the stratospheric ozone layer. The amount of the tax is adjusted for each chemical, depending on the chemical's potential for depleting stratospheric ozone.

The tax imposed by S. 871 can be passed on to CFC consumers, raising the price of CFCs; thus, market forces are used to decrease the demand for the more dangerous chemicals. The increased price due to the tax effectively "internalizes" the environmental costs into the costs of the product (similar to the logic of those who would call for a carbon dioxide tax to reduce greenhouse gas emissions). If the price is not raised, no incentive is provided for consumers to demand the less dangerous chemicals. The higher price also makes the environmentally safer substitutes more economically competitive with the traditionally very-low-cost CFCs, and will eventually provide users with the incentive to recapture and recycle the most dangerous ozone-depleting chemicals.

The tax does not provide for adjustment to capture windfall profits. Companies are expected to use these profits to finance research and development alternatives. Because their product is being phased out, they will need those revenues to finance a substantial research and development effort.

S. 503 imposes a charge on the production and importation of ozone-depleting chemicals. An ozone depletion potential is assigned to each of the substances, and a fee is set on each pound of CFC or halon produced.

The fee imposed by S. 503 is to be absorbed by the CFC manufacturers, keeping the price of CFCs stable. The fee is adjustable, to capture any windfall profits that CFC producers realize as supplies drop during the phaseout and thus prevent the CFC manufacturers' from inflating the price of CFCs.

OZONE LAYER CONSERVATION TRUST FUND

S. 871 provides that one-half of the revenues from the manufacturers' excise tax are put into an ozone layer conservation trust fund. This would equal \$200 million in the first year, rising to \$XXX billion in the fifth year; the remainder of revenues from the manufacturers' excise tax would go to the Treasury. Expenditures from the Trust Fund would provide for government-industry cooperation in research, development, and market incentives for non-ozone-depleting chemical and technological alternatives to ozone-depleting substances. In addition, the federal government would investigate the means by which it might assist United States manufacturers of such technological alternatives in exporting the alternatives for applications in developing and developed countries. S. 871 also incorporates several provisions modeled on past government-industry cooperative efforts to build a new industry, such as block federal purchases of new technology meeting specified performance standards.

S. 503 provides that up to \$100 million of the fee revenues are put into a trust fund annually to provide grants to producers and users to develop substitutes and alternatives to products now manufactured by the chemicals, with the rest going to the Treasury. S. 503 does not provide for the creation of markets for alternative technologies, but instead focuses on providing funding for research. Thirty percent of the trust funds are dedicated to funding research into substitutes for ozone-depleting chemicals and, 70% to support research into alternative products that are produced without ozone-depleting chemicals.

By putting the fee and tax revenues into a trust fund, both S. 871 and S. 503 ensure that a portion of the monies generated by the sale of ozone-depleting substances are used to support efforts for finding alternatives to technologies based on these substances.

3. Comparison of S. 872 to S. 333 and S. 491.

LISTING OF REGULATED SUBSTANCES

S. 872 requires the Administrator of the Environmental Protection Agency to publish lists of manufactured substances that are known or may reasonably be anticipated to cause or contribute to ozone depletion in the upper atmosphere. S. 333 and S. 491 have similar provisions, with some differences in the particular compounds to be included on each list. Following is a summary of these differences:

LIST OF REGULATED SUBSTANCES:

<u>Compound</u>	<u>S. 872</u>	<u>S. 333</u>	<u>S. 491</u>
CFC-11	yes	yes	yes
CFC-12	yes	yes	yes
CFC-22	yes	yes	yes
CFC-113	yes	yes	yes
CFC-114	no	no	yes
CFC-115	no	no	yes
CFC-123	no	no	yes
CFC-124	no	no	yes
CFC-141	no	no	yes
CFC-142	no	no	yes
methyl chloroform	no	no	yes
methylene chloride	yes	yes	yes
carbon tetrachloride	yes	no	no
halon 1211	yes	yes	yes
halon-1301	yes	yes	yes
halon-2402	no	no	yes

[[S. 872, S. 333, and S. 491 require the Administrator of the Environmental Protection Agency to assign an ozone depletion factor to each listed substance. The ODF is a numerical value representing the ozone depletion potential of each manufactured substance, on a mass basis, as compared to CFC-11.

PRODUCTION PHASEOUT

S. 872, S. 333, and S. 491 all require the phase-out of the production of ozone-depleting substances, but differ in the schedule for the phase-out and the compounds to be eliminated. Following is a summary of the compounds to be phased out and the schedule for doing so for each bill:

<u>Compound</u>	<u>S. 871</u>	<u>S. 491</u>	<u>S. 333</u>
CFC-11	w/in 5 yr	1997	1996
CFC-12	5 yr	1997	1996
CFC-22	10 yr	n/a	2000
CFC-113	5 yr	1997	1996
CFC-114	10 yr	1997	2000
CFC-115	10 yr	1997	2000
CFC-123	yr		
CFC-124	yr		
CFC-141	yr		
CFC-142	yr		
methyl chloroform	10 yr	1997	2000
methylene chloride	10 yr	n/a	2000

carbon tetrachloride	5 yr	n/a	2000
halon 1211	5 yr	1997	1996
halon-1301	5 yr	1997	1996
halon-2402	n/a	1997	n/a

S. 872 and S. 333 both require the eventual phase-out of all ozone-depleting substances, while S. 491 only requires the elimination of those substances specified on the list.

REPORTING REQUIREMENTS,

S. 872, S. 491, and S. 333 require manufacturers of ozone-depleting substances to report the amount of these substances produced during the previous 12-month period.

LIMITATION ON USE

S. 872, S. 333, and S. 491 each limit the use and sale of ozone-depleting substances. S. 872 and S. 333 have effective dates for this prohibition of 5 years for substances on a priority list, and 10 years for all other ozone-depleting substances. S. 491 only places limits on those substances on its list of regulated substances.

MANUFACTURE AND DISPOSAL

S. 872 and S. 333 prohibit the manufacture, process, distribution, and use of any ozone-depleting substance except in a totally enclosed manner, and require that the substance be disposed of in a way that ensures that the substance will not be released to the environment. They also require that ozone-depleting substances be removed from appliances, machines, or other goods before those goods are disposed.

S. 491 requires the Administrator of the Environmental Protection Agency to promulgate regulations establishing standards and requirements for the use of ozone-depleting substances and prohibits the use, release, or disposal of any ozone-depleting substance in a fashion that permits the release of the substance to the atmosphere. These regulations may also require a reduction in use, the use of alternative substances, and the recovery of these substances. The Administrator must also promulgate regulations establishing standards and requirements for the recapture, recycling, and safe disposal of these substances.

LIMITATION ON OZONE DEPLETION POTENTIAL

S. 872, S. 333, and S. 491 place limits on the total ozone depletion factor of the substances produced by any person. This total ozone depletion factor limit is gradually lowered to zero five years after enactment in the case of S. 872, and by 1996 in the case of S. 333. S. 491 requires the Administrator of the EPA to promulgate regulations mandating a 95 percent reduction in the total ozone depletion factor by 1997.

PRODUCTION PHASE-OUT EXCEPTION FOR NATIONAL SECURITY

S. 872 and S. 333 allow the production and use of halo-1211 and halon-1301 as may be necessary to protect the national security interests of the United States. S. 491 extends this exception to halon-2402.

CERTIFICATION OF EQUIVALENT PROGRAMS

S. 872, S. 333, and S. 491 all require certification by the Administrator of the EPA that foreign countries have equivalent phaseout programs in place before allowing products that contain or are manufactured with ozone-depleting substances to be imported in the United States.

SAFE ALTERNATIVES POLICY

S. 872 establishes the policy that the substances to be phased out will be replaced, to the maximum extent possible, by chemicals, product substitutes, or alternative manufacturing processes that reduce overall risks to public health and the environment. It also calls on the Environmental Protection Agency to review and report on the alternatives being considered, and assess their risks to public health and the environment. The requirement of such an assessment assures that alternatives to ozone-depleting substances are not more risky to human health and the environment than the substances they are replacing.

S. 333 and S. 491 do not have comparable provisions.

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PROVISIONS CONTAINED IN
SIDE-BY-SIDE COMPARISON OF S. 870, S. 871, and S. 872, to comparable
PROVISIONS IN S. 333, S. 491, AND S. 503

The following is a comparison of the major provisions contained in S. 870, S. 871, and S. 872, to ~~those~~ contained in S. 333, S. 491, and S. 503.

comparable provisions

1. Comparison of S. 870 to S. 333, S. 491, and S. 503.

MOBILE AIR-CONDITIONERS

S. 870 regulates auto ^{air} conditioner servicing, to ensure that chlorofluorocarbons (CFCs) are recaptured and recycled, and not unnecessarily vented to the atmosphere. About 30% of U.S. emissions of CFC-12 originate from auto air conditioners, and three-quarters of those emissions occur during maintenance and recharging. S. 870 also eliminates the sale of CFC-containing air conditioner recharge canisters smaller than 30 pounds, thus limiting the sale of CFC-containing air conditioner fluid to bulk purchasers (i.e., servicers) only. Finally, S. 870 requires that servicers recharging auto air conditioners with CFC-containing fluids first test the system for leaks and repair those leaks.

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S. 333, S. 491, and S. 503 do not have comparable provisions targeted specifically to mobile air-conditioners, but both S. 333 and S. 491 have provisions that ~~could affect this end~~

and eliminating the sale of recharge canisters smaller than 30 pounds

might have ^{some other} applications in this area.

general

FIRE EXTINGUISHERS FOR CONSUMER APPLICATIONS

S. 870 bans the sale and distribution of fire extinguishers containing halons or any other ozone-depleting substances unless required by federal law. This removes from the market a major source of releases to the atmosphere of halons.

S. 333, S. 491, and S. 503 do not have comparable provisions, but S. 333 and S. 491 have provisions that ~~could affect this end~~

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targeted specifically at fire extinguishers for consumer applications, eliminating sale of

NONESSENTIAL CONSUMER PRODUCTS CONTAINING CHLOROFLUOROCARBONS

S. 870 bans the sale and distribution of non-essential consumer products that are capable of releasing ozone-depleting substances into the atmosphere. These products include chlorofluorocarbon-containing plastic party streamers and noise horns, chlorofluorocarbon-containing cleaning fluids for electronic and photographic equipment, and others.

S. 333, S. 491, and S. 503 do not have comparable provisions.

LABELING REQUIREMENTS

S. 870 requires the labeling of consumer products that contain, are produced with, or are produced from an ozone-depleting substance. These labels would warn the purchaser of the product that the product's contents or manufacturing process pose a danger to the stratospheric ozone layer, and that depletion of the ozone layer could lead to increased risk of skin cancer and damage to natural systems, including food production.

The labeling provisions in S. 333 and S. 491 are similar. S. 503 has no similar provision.

CHLOROFLUOROCARBON AND HALON RECLAMATION *Plan*

S. 870 requires the Secretary of Commerce to issue a plan to provide for the most effective way of ensuring widespread reclamation, recycling, or regulated disposal of ozone-depleting substances and requires that all consumer products containing an ozone-depleting substance have an aperture that allows such substances to be removed without releasing them to the atmosphere. ~~By requiring the preparation of a plan, a comprehensive approach to preventing releases of ozone-depleting substances can be taken and the prevention of their release ensured.~~

S. 491 requires the Administrator of the Environmental Protection agency to promulgate regulations establishing standards for the recapture, recycling, and safe disposal of ozone-depleting substances. These regulations must mandate, among other things, that goods containing an ozone-depleting substance in bulk must be equipped with a servicing aperture that will allow the recapture of the substance. ~~It also prohibits the use, release, or disposal of any ozone-depleting substance in a fashion that~~

and
without release to the environment.

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permits the release of the substance to the atmosphere, and ~~grants the Administrator authority to promulgate regulations effecting this.~~

S. 333 and S. 503 contain no comparable provisions.

2. Comparison of S. 871 to ~~S. 333~~ S. 503.

MANUFACTURERS' EXCISE TAX ON CHEMICALS THAT DEplete THE OZONE LAYER

S. 871 amends the Internal Revenue Code of 1986 to impose a manufacturers' excise tax on certain chemicals that deplete the stratospheric ozone layer. The amount of the tax is adjusted for each chemical, depending on the chemical's potential for depleting stratospheric ozone.

The tax imposed by S. 871 can be passed on to CFC consumers, raising the price of CFCs; thus, the market is used to decrease the demand for the more dangerous chemicals. The increased price due to the tax effectively "internalizes" the environmental costs into the costs of the product (similar logic is used by those who would call for a ~~tax~~ tax). If the price is not raised, no incentive is provided for consumers to demand the less dangerous chemicals. The higher price also makes the substitutes more economically competitive with the traditionally very-low-cost CFCs, and will eventually provide users with the incentive to recapture and recycle the most dangerous ozone-depleting chemicals.

A tax does not provide for adjustment to capture windfall profits. Companies are expected to use these profits to finance R&D into alternatives. Because their product is being phased out, they will need those revenues to finance a substantial research and development effort.

S. 503 imposes a charge on the production and importation of ozone-depleting chemicals. An ozone depletion potential is assigned to each of the substances, and a fee is set on each pound of CFC or halon produced. ~~A portion of the fees collected would be used to set up a trust fund to provide grants to producers and users to develop substitutes and alternatives to products now manufactured by the chemicals.~~

The fee imposed by S. 503 is to be absorbed by the CFC manufacturers, keeping the price of CFCs stable. The fee is adjustable, to capture any windfall profits that CFC producers realize as supplies drop during the phaseout and

to reduce greenhouse gas emissions.
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thus prevent the CFC manufacturers' from ~~artificially~~ inflating the price of CFCs.

OZONE LAYER CONSERVATION TRUST FUND

S. 871 provides that one-half of the revenues from the manufacturers' excise tax are put into an ozone layer conservation trust fund. This would equal \$200 million in the first year, and rising to ~~\$400 million~~ in the second year. Expenditures from the Trust Fund would provide for government-industry cooperation in research, development, and market incentives for non-ozone-depleting chemical and technological alternatives to ozone-depleting substances. In addition, the federal government would investigate the means by which it might assist United States manufacturers of such ~~alternative technologies~~ in exporting the equipment for applications in developing and developed countries. S. 871 also incorporates several provisions modeled on past government-industry cooperative efforts to build a new industry, such as block federal purchases of new technology meeting specified performance standards.

S. 503 provides that up to \$100 million of the fee revenues are put into the trust fund, with the rest going to the Treasury. S. 503 does not provide for the creation of markets for alternative technologies, but instead focuses on providing funding for research. Thirty percent of the trust funds are dedicated to funding research into substitutes for ozone-depleting chemicals, and 70% of the funds are to support research into alternative products that are produced without ozone-depleting chemicals.

By putting the fee and tax revenues into a trust fund, both S. 871 and S. 503 ensure that a portion of the monies generated by the sale of ozone-depleting substances, ~~be they windfall profits or tax revenues~~, are used to support research efforts for alternatives to technologies based on these substances, ~~particularly by groups that would not have access to such sources of funding as corporate profits.~~

3. Comparison of S. 872 to ~~Other Bills~~

LISTING OF REGULATED SUBSTANCES

S. 872 requires the Administrator of the Environmental Protection Agency to publish ~~two lists~~ a ~~priority list~~ of manufactured substances that are known or may reasonably be anticipated to cause or contribute to ozone depletion in the upper atmosphere, ~~and are highest priority for being~~

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~~phased out, and a list of other manufactured substances that meet this criteria.~~

~~no 4~~
S. 333 and S. 491 have similar provisions, ~~the primary~~ ^{with some} differences ~~being~~ the particular compounds to be included on each list. Following is a summary of these differences:

in

~~PRIORITY LIST~~

<u>Compound</u>	<u>S. 872</u>	<u>S. 333</u>	<u>S. 491</u>
CFC-11	yes	yes	yes
CFC-12 ²²	yes	yes	yes
CFC-113	yes	yes	yes
CFC-114	no	no	yes
CFC-115 ^{123, 124, 141, 142}	no	no	yes
methyl chloroform	no	no	yes
halon 1211 ^{methyl chloride}	yes	yes	yes
halon-1301	yes	yes	yes
halon-2402	no	no	yes
carbon tetrachloride	yes	no	no

~~LIST OF OTHER REGULATED SUBSTANCES~~

<u>Compound</u>	<u>S. 872</u>	<u>S. 333</u>	<u>S. 491</u>
CFC-22	yes	yes	yes
CFC-114	yes	yes	no
CFC-115	yes	yes	no
CFC-123	no	no	yes
CFC-124	no	no	yes
CFC-125	no	no	yes
CFC-141(b)	no	no	yes
CFC-142(b)	no	no	yes
methyl chloroform	yes	yes	no
methylene chloride	yes	yes	yes
carbon tetrachloride	yes	yes	yes

S. 872, S. 333, ~~S. 503~~ and S. 491 also require the Administrator to assign an ~~ozone depletion~~ ^{of the ozone depletion} factor to each listed substance. The ODF is a numerical value representing the ozone depletion potential of each manufactured substance, on a mass basis, as compared to CFC-11. ~~The ODF provisions of S. 872 and S. 333 are identical, and vary from S. 491 only and S. 503 by the substances listed and the ODF value specified for certain substances.~~

The most significant of the ozone depleters/greenhouse gases are CFC-11 and CFC-12. CFC-113 (used as a solvent),

halon-1211, and halon 1301 are other important ozone depleters. Carbon tetrachloride has been implicated in the problem of arctic ozone depletion, and carbon tetrachloride reductions have significantly lowered atmospheric chlorine loadings, according to EPA models. Carbon tetrachloride is used worldwide, in the Third World and East Bloc, in particular, and is used as a feedstock for the manufacture of CFCs, and as an industrial solvent. On April 17, EPA issued an "Advance Notice of Proposed Rulemaking" (ANPRM) to the effect that it intended to add methyl chloroform and carbon tetrachloride to the list of ozone-depleting chemicals already regulated by the Montreal Protocol.

PRODUCTION PHASEOUT

S. 872, S. 333, and S. 491 all require the phase-out of the production of ozone-depleting substance, ~~differing~~ ^{but} primarily in the schedule for the phase-out and the compounds to be eliminated. Following is a summary of the compounds to be phased out and the schedule for doing so for each bill:

Some list as before

<u>Compound</u>	<u>S. 871</u>	<u>S. 491</u>	<u>S. 333</u>
CFC-11	w/in 5 yr	1997	1996
CFC-12	5 yr	1997	1996
CFC-22	10 yr	n/a	2000
CFC-113	5 yr	1997	1996
CFC-114	10 yr	1997	2000
CFC-115	10 yr	1997	2000
methyl chloroform	10 yr	1997	2000
halon-1211	5 yr	1997	1996
halon-1301	5 yr	1997	1996
halon-2402	n/a	1997	n/a
carbon tetrachloride	5 yr	n/a	2000
methylene chloride	10 yr	n/a	2000

123, 124, 141, 142

S. 872 and S. 333 both require the eventual phase-out of all ozone-depleting substances, while S. 491 only requires the elimination of those substances specified on the ~~priority~~ list. 10?

REPORTING REQUIREMENTS,

S. 872, S. 491, and S. 333 require manufacturers of ozone-depleting substances to report the amount of these substances produced during the previous 12-month period. ~~S. 503 has no comparable provision~~

LIMITATION ON USE

S. 872, S. 333, and S. 491 ^{each} limit the use and sale of ozone-depleting substances. S. 872 and S. 333 ~~are~~ ^{have} identical in that the effective dates for this prohibition ^{of} is 5 years for substances on the priority list, and 10 years for all other substances. S. 491 only places limits on those substances on ~~the~~ ^{its} priority list. ^{of regulated substances.}

MANUFACTURE AND DISPOSAL

S. 872 and S. 333 prohibit the manufacture, process, distribution, and use of any ozone-depleting substance except in a totally enclosed manner, and require that the substance be disposed of in a way that ensures that the substance will not be released to the environment. They also require that ozone-depleting substances be removed from appliances, machines, or other goods before those goods are disposed.

S. 491 requires the Administrator ^{(A) of EPA} to promulgate regulations establishing standards and requirements for the use of ozone-depleting substances. These regulations may require a reduction in use, the use of alternative substances, and the recovery of these substances. The Administrator must also promulgate regulations establishing standards and requirements for the recapture, recycling, and safe disposal of these substances. ^{also}

LIMITATION ON OZONE DEPLETION POTENTIAL

S. 872, S. 333, and S. 491 place limits on the total ozone depletion factor of the substances produced by any person. This total ozone depletion factor limit is gradually lowered to zero five years after enactment in the case of S. 872, and ~~in~~ ^{by} 1996 in the case of S. 333. S. 491 requires the Administrator to promulgate regulations mandating a 95 percent reduction in the total ozone depletion factor by 1997. ^{of EPA}

PRODUCTION PHASE-OUT EXCEPTION FOR NATIONAL SECURITY

S. 872 and S. 333 allow the production and use of halo-1211 and halon-1301 as may be necessary to protect the national security interests of the United States. S. 491 extends this exception to halon-2402. ~~(S. 491) (S. 872) (S. 333)~~

CERTIFICATION OF EQUIVALENT PROGRAMS

of EPA

S. 872, S. 333, and S. 491 all require certification by the Administrator, ~~in consultation with the Secretary of State~~, that foreign countries have equivalent phaseout programs in place before allowing ~~their~~ products that contain or are manufactured with ozone-depleting substances to be ~~imported~~ to the United States. ~~The provisions in all three bills are similar.~~

SAFE ALTERNATIVES POLICY

S. 872 establishes the policy that the substances to be phased out will be replaced, to the maximum extent possible, by chemicals, product substitutes, or alternative manufacturing processes that reduce overall risks to public health and the environment. It also calls on EPA to review and report on the alternatives being considered, and assess their risks to public health and the environment. ~~Considerable concern has been voiced that replacements for ozone depleting substances be adopted without due regard for any threat that they may pose. The bill requiring that an assessment be conducted of these alternatives, an assurance can be had that they are not more risky to human health and the environment than the substances they are replacing.~~

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and ~~alternatives to ozone-depleting substances~~
S. 333, S. 491, and S. 503 do not have comparable provisions.

SIDE-BY-SIDE COMPARISON OF SOME PROVISIONS CONTAINED IN S. 870, S. 871, and S. 872, TO COMPARABLE PROVISIONS IN S. 333, S.491, AND S.503

The following is a comparison of some major provisions contained in S. 870, S. 871, and S. 872, to comparable provisions contained in S. 333, S. 491, and S. 503.

1. Comparison of S. 870 to S. 333, S. 491, and S.503.

MOBILE AIR-CONDITIONERS

S. 870 regulates auto air conditioner servicing, to ensure that chlorofluorocarbons (CFCs) are recaptured and recycled, and not unnecessarily vented to the atmosphere. About 30% of U.S. emissions of CFC-12 originate from auto air conditioners, and about three-quarters of those emissions occur during maintenance and recharging. S. 870 also eliminates the sale of CFC-containing air conditioner recharge cannisters smaller than 30 pounds, thus effectively limiting the sale of CFC-containing air conditioner fluid to bulk purchasers (i.e., servicers) only. Finally, S. 870 requires that servicers recharging auto air conditioners with CFC-containing fluids first test the system for leaks and repair those leaks before recharging.

S. 333, S. 491, and S. 503 do not have comparable provisions targeted specifically at mobile air-conditioners and eliminating the sale of recharge cannisters smaller than thirty pounds, but both S. 333 and S. 491 have more general provisions that might have applications in this area. (S. 872 also contains similar general provisions).

FIRE EXTINGUISHERS FOR CONSUMER APPLICATIONS

S. 870 bans the sale and distribution of fire extinguishers containing halons or other ozone-depleting substances for routine consumer applications, except in cases where such fire extinguishers are required by federal law.

S. 333, S. 491, and S. 503 do not have comparable provisions targeted specifically at eliminating the sale of halon-containing fire extinguishers for consumer

applications, but both S. 333 and S. 491 have more general provisions that could indirectly affect those products. (S. 872 contains similar general provisions.)

NONESSENTIAL CONSUMER PRODUCTS CONTAINING CHLOROFLUOROCARBONS

S. 870 bans the sale and distribution of non-essential consumer products that are capable of releasing ozone-depleting substances into the atmosphere. These products include chlorofluorocarbon-containing plastic party streamers and noise horns, chlorofluorocarbon-containing cleaning fluids for electronic and photographic equipment, and others.

S. 333, S. 491, and S. 503 do not have comparable provisions targeted specifically at eliminating these nonessential consumer products, but both S. 333 and S. 491 have more general provisions that might affect these products (S. 872 also contains similar general provisions).

LABELING REQUIREMENTS

S. 870 requires the labeling of consumer products that contain, are produced with, or are produced from an ozone-depleting substance. These labels would warn the purchaser that the product's contents or manufacturing process pose a danger to the stratospheric ozone layer, and that depletion of the ozone layer could lead to increased risk of skin cancer and damage to natural systems, including food production.

The labeling provisions in S. 333 and S. 491 are similar.

CHLOROFLUOROCARBON AND HALON RECLAMATION PLAN

S. 870 calls for the development of a plan for ensuring the most effective means of achieving widespread reclamation, recycling, or regulated disposal of ozone-depleting substances.

S. 491 requires the development of regulations establishing standards for the recapture, recycling, and safe disposal of ozone-depleting substances.

2. Comparison of S. 871 to S. 503.

MANUFACTURES' EXCISE TAX ON CHEMICALS THAT DEplete THE OZONE LAYER

S. 871 amends the Internal Revenue Code of 1986 to impose a manufacturers' excise tax on certain chemicals that deplete the stratospheric ozone layer. The amount of the tax is adjusted for each chemical, depending on the chemical's potential for depleting stratospheric ozone.

The tax imposed by S. 871 can be passed on to purchasers of ozone-depleting chemicals, raising the price of the chemicals; thus, market forces are used to decrease the demand for the more dangerous chemicals. The increased price due to the tax effectively "internalizes" the environmental costs into the costs of the product (similar to the logic of those who would call for a carbon dioxide tax to reduce greenhouse gas emissions). If the price is not raised, no incentive is provided for consumers to demand the less-dangerous chemicals. The higher price also makes the environmentally safer substitutes more economically competitive with some traditionally very-low-cost ozone-depleting chemicals, and will eventually provide users with the incentive to recapture and recycle the most dangerous ozone-depleting chemicals.

The tax does not provide for adjustment to capture windfall profits. Companies are expected to use such profits -- to the extent that they occur -- in order to finance research and development of alternatives. Because the traditional products are being phased out, the companies should require those revenues to finance a substantial research and development effort.

S. 503 imposes a fee on the production and importation of ozone-depleting chemicals. An ozone depletion potential is assigned to each of the substances, and a fee is set based on the chemical's potential for depleting stratospheric ozone.

The fee imposed by S. 503 is to be absorbed by the chemical manufacturers, keeping the price of ozone-depleting chemicals stable. The fee is adjustable, to capture any windfall profits that producers realize as supplies drop during the phaseout period and thus prevent the manufacturers from inflating the price of the chemicals being phased out.

OZONE LAYER CONSERVATION TRUST FUND

S. 871 provides for putting one-half of the revenues from the manufacturers' excise tax into an ozone layer conservation trust fund. This would equal \$200 million in the first year, rising to \$750 million in the fifth year; the remainder of revenues from the manufacturers' excise tax would go to the Treasury. Expenditures from the Trust Fund would provide for government-industry cooperation in research, development, and market incentives for non-ozone-depleting chemical and technological alternatives to ozone-depleting substances. In addition, the federal government would investigate the means by which it might assist United States manufacturers of such technological alternatives in exporting the alternatives for applications in developing and developed countries. S. 871 also incorporates several provisions modeled on past government-industry cooperative efforts to build new industries, such as block federal purchases of new technologies meeting specified performance standards.

S. 503 provides that up to \$100 million of the fee revenues are put into a trust fund annually to provide grants to producers and users to develop substitutes and alternatives to products now manufactured by ozone-depleting chemicals, with the rest going to the Treasury. S. 503 does not provide for the creation of markets for alternative technologies, but instead focuses on providing funding for research. Thirty percent of the trust funds are dedicated to funding research into substitutes for ozone-depleting chemicals and, 70% to support research into alternative products that are produced without ozone-depleting chemicals.

By putting the fee and tax revenues into a trust fund, both S. 871 and S. 503 ensure that a portion of the funds collected from the sale of ozone-depleting substances are used to support efforts for finding alternatives to technologies based on these substances.

3. Comparison of S. 872 to S. 333 and S. 491.

LISTING OF REGULATED SUBSTANCES

S. 872 requires the Administrator of the Environmental Protection Agency to publish lists of manufactured substances that are known or may reasonably be anticipated to cause or contribute to ozone depletion in the upper atmosphere. S. 333 and S. 491 have similar provisions, with some differences in the particular compounds to be included on each list. Following is a summary of these differences:

<u>Compound</u>	<u>S. 872</u>	<u>S. 333</u>	<u>S. 491</u>
CFC-11	yes	yes	yes
CFC-12	yes	yes	yes
CFC-22	yes	yes	yes
CFC-113	yes	yes	yes
CFC-114	yes	yes	yes
CFC-115	yes	yes	yes
CFC-123	no	no	yes
CFC-124	no	no	yes
CFC-125	no	no	yes
CFC-141	no	no	yes
CFC-142	no	no	yes
methyl chloroform	yes	yes	yes
methylene chloride	yes	yes	yes
carbon tetrachloride	yes	yes	yes
halon-1211	yes	yes	yes
halon-1301	yes	yes	yes
halon-2402	no	no	yes

Although S. 491 regulates a number of substances, only those noted below are actually phased out.

S. 872, S. 333, and S. 491 require the Administrator of the Environmental Protection Agency to assign an ozone depletion factor to each listed substance. The ozone-depletion factor is a numerical value representing the ozone depletion potential of each manufactured substance, on a mass basis, as compared to CFC-11.

PRODUCTION PHASEOUT

S. 872, S. 333, and S. 491 all require the phaseout of the production of ozone-depleting substances, but differ in the schedule for the phaseout and the compounds to be eliminated. Following is a summary of the compounds to be phased out and the schedule for doing so in each bill:

<u>Compound</u>	<u>S. 871</u>	<u>S. 333</u>	<u>S. 491</u>
CFC-11	5 yr	1996	1997
CFC-12	5 yr	1996	1997
CFC-22	10 yr	2000	n/a
CFC-113	5 yr	1996	1997
CFC-114	10 yr	2000	1997
CFC-115	10 yr	2000	1997
CFC-123	n/a	n/a	n/a
CFC-124	n/a	n/a	n/a
CFC-125	n/a	n/a	n/a
CFC-141	n/a	n/a	n/a
CFC-142	n/a	n/a	n/a

methyl chloroform	10 yr	1996	1997
methylene chloride	10 yr	2000	n/a
carbon tetrachloride	5 yr	2000	n/a
halon-1211	5 yr	1996	1997
halon-1301	5 yr	1996	1997
halon-2402	n/a	n/a	1997

MANUFACTURE AND DISPOSAL

S. 872 and S. 333 prohibit the manufacture, distribution, and use of any ozone-depleting substance except in a totally enclosed manner, and require that the substance be disposed of in a way that ensures that the substance will not be released to the environment. They also require that ozone-depleting substances be removed from appliances, machines, or other goods before those goods are disposed of.

S. 491 requires the establishment of standards and requirements for the use of ozone-depleting substances and prohibits the use, release, or disposal of any ozone-depleting substance in a fashion that permits the release of the substance to the atmosphere.

LIMITATION ON OZONE DEPLETION POTENTIAL

S. 872, S. 333, and S. 491 place limits on the total ozone depletion potential of the substances produced by any person. This limit on total ozone depletion potential is gradually lowered to zero within ten years after enactment in the case of S. 872, and by 2000 in the case of S. 333. S. 491 requires a 95 percent reduction in the total ozone depletion potential by 1997.

PRODUCTION PHASE-OUT EXCEPTION FOR NATIONAL SECURITY

S. 872 and S. 333 allow the production and use of halo-1211 and halon-1301 as may be necessary to protect the national security interests of the United States. S. 491 extends this exception to halon-2402.

CERTIFICATION OF EQUIVALENT PROGRAMS

S. 872, S. 333, and S. 491 all require certification that foreign countries have equivalent phaseout programs in place before allowing products that contain or are

manufactured with ozone-depleting substances to be imported into the United States.

SAFE ALTERNATIVES POLICY

S. 872 establishes the policy that the ozone-depleting substances to be phased out will be replaced, to the maximum extent possible, by chemicals, product substitutes, or alternative manufacturing processes that reduce overall risks to public health and the environment. It also calls on the Environmental Protection Agency to review and report on the alternatives being considered, and assess their risks to public health and the environment. The requirement of such an assessment assures that alternatives to ozone-depleting substances are not more risky to human health and the environment than the substances they are replacing.

S. 333 and S. 491 do not have comparable provisions.

SIDE-BY-SIDE COMPARISON OF SOME PROVISIONS CONTAINED IN S. 870, S. 871, and S. 872, TO COMPARABLE PROVISIONS IN S. 333, S.491, AND S.503

The following is a comparison of some major provisions contained in S. 870, S. 871, and S. 872, to comparable provisions contained in S. 333, S. 491, and S. 503.

1. Comparison of S. 870 to S. 333, S. 491, and S.503.

MOBILE AIR-CONDITIONERS

S. 870 regulates auto air conditioner servicing, to ensure that chlorofluorocarbons (CFCs) are recaptured and recycled, and not unnecessarily vented to the atmosphere. About 30% of U.S. emissions of CFC-12 originate from auto air conditioners, and about three-quarters of those emissions occur during maintenance and recharging. S. 870 also eliminates the sale of CFC-containing air conditioner recharge cannisters smaller than 30 pounds, thus effectively limiting the sale of CFC-containing air conditioner fluid to bulk purchasers (i.e., servicers) only. Finally, S. 870 requires that servicers recharging auto air conditioners with CFC-containing fluids first test the system for leaks and repair those leaks before recharging.

S. 333, S. 491, and S. 503 do not have comparable provisions targeted specifically at mobile air-conditioners and eliminating the sale of recharge cannisters smaller than thirty pounds, but both S. 333 and S. 491 have more general provisions that might have applications in this area. (S. 872 also contains similar general provisions).

FIRE EXTINGUISHERS FOR CONSUMER APPLICATIONS

S. 870 bans the sale and distribution of fire extinguishers containing halons or other ozone-depleting substances for routine consumer applications, except in cases where such fire extinguishers are required by federal law.

S. 333, S. 491, and S. 503 do not have comparable provisions targeted specifically at eliminating the sale of halon-containing fire extinguishers for consumer

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applications, but both S. 333 and S. 491 have more general provisions that could indirectly affect those products. (S. 872 contains similar general provisions.)

NONESSENTIAL CONSUMER PRODUCTS CONTAINING CHLOROFLUOROCARBONS

S. 870 bans the sale and distribution of non-essential consumer products that are capable of releasing ozone-depleting substances into the atmosphere. These products include chlorofluorocarbon-containing plastic party streamers and noise horns, chlorofluorocarbon-containing cleaning fluids for electronic and photographic equipment, and others.

S. 333, S. 491, and S. 503 do not have comparable provisions targeted specifically at eliminating these nonessential consumer products, but both S. 333 and S. 491 have more general provisions that might affect these products (S. 872 also contains similar general provisions).

LABELING REQUIREMENTS

S. 870 requires the labeling of consumer products that contain, are produced with, or are produced from an ozone-depleting substance. These labels would warn the purchaser that the product's contents or manufacturing process pose a danger to the stratospheric ozone layer, and that depletion of the ozone layer could lead to increased risk of skin cancer and damage to natural systems, including food production.

The labeling provisions in S. 333 and S. 491 are similar.

CHLOROFLUOROCARBON AND HALON RECLAMATION PLAN

S. 870 calls for the development of a plan for ensuring the most effective means of achieving widespread reclamation, recycling, or regulated disposal of ozone-depleting substances.

S. 491 requires the development of regulations establishing standards for the recapture, recycling, and safe disposal of ozone-depleting substances.

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S. 871 amends the Internal Revenue Code of 1986 to impose a manufacturers' excise tax on certain chemicals that deplete the stratospheric ozone layer. The amount of the tax is adjusted for each chemical, depending on the chemical's potential for depleting stratospheric ozone.

The tax imposed by S. 871 can be passed on to purchasers of ozone-depleting chemicals, raising the price of the chemicals; thus, market forces are used to decrease the demand for the more dangerous chemicals. The increased price due to the tax effectively "internalizes" the environmental costs into the costs of the product (similar to the logic of those who would call for a carbon dioxide tax to reduce greenhouse gas emissions). If the price is not raised, no incentive is provided for consumers to demand the less-dangerous chemicals. The higher price also makes the environmentally safer substitutes more economically competitive with some traditionally very-low-cost ozone-depleting chemicals, and will eventually provide users with the incentive to recapture and recycle the most dangerous ozone-depleting chemicals.

The tax does not provide for adjustment to capture windfall profits. Companies are expected to use such profits -- to the extent that they occur -- in order to finance research and development of alternatives. Because the traditional products are being phased out, the companies should require those revenues to finance a substantial research and development effort.

S. 503 imposes a fee on the production and importation of ozone-depleting chemicals. An ozone depletion potential is assigned to each of the substances, and a fee is set based on the chemical's potential for depleting stratospheric ozone.

The fee imposed by S. 503 is to be absorbed by the chemical manufacturers, keeping the price of ozone-depleting chemicals stable. The fee is adjustable, to capture any windfall profits that producers realize as supplies drop during the phaseout period and thus prevent the manufacturers from inflating the price of the chemicals being phased out.

OZONE LAYER CONSERVATION TRUST FUND

S. 871 provides for putting one-half of the revenues from the manufacturers' excise tax into an ozone layer conservation trust fund. This would equal \$200 million in the first year, rising to \$750 million in the fifth year;

the remainder of revenues from the manufacturers' excise tax would go to the Treasury. Expenditures from the Trust Fund would provide for government-industry cooperation in research, development, and market incentives for non-ozone-depleting chemical and technological alternatives to ozone-depleting substances. In addition, the federal government would investigate the means by which it might assist United States manufacturers of such technological alternatives in exporting the alternatives for applications in developing and developed countries. S. 871 also incorporates several provisions modeled on past government-industry cooperative efforts to build new industries, such as block federal purchases of new technologies meeting specified performance standards.

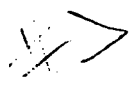
S. 503 provides that up to \$100 million of the fee revenues are put into a trust fund annually to provide grants to producers and users to develop substitutes and alternatives to products now manufactured by ozone-depleting chemicals, with the rest going to the Treasury. S. 503 does not provide for the creation of markets for alternative technologies, but instead focuses on providing funding for research. Thirty percent of the trust funds are dedicated to funding research into substitutes for ozone-depleting chemicals and, 70% to support research into alternative products that are produced without ozone-depleting chemicals.

By putting the fee and tax revenues into a trust fund, both S. 871 and S. 503 ensure that a portion of the funds collected from the sale of ozone-depleting substances are used to support efforts for finding alternatives to technologies based on these substances.

3. Comparison of S. 872 to S. 333 and S. 491.

LISTING OF REGULATED SUBSTANCES

S. 872 requires the Administrator of the Environmental Protection Agency to publish lists of manufactured substances that are known or may reasonably be anticipated to cause or contribute to ozone depletion in the upper atmosphere. S. 333 and S. 491 have similar provisions, with some differences in the particular compounds to be included on each list. Following is a summary of these differences:

 Compound S. 872 S. 333 S. 491

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S. 503 imposes a fee on the production and importation of ozone-depleting chemicals. An ozone depletion potential is assigned to each of the substances, and a fee is set based on the chemical's potential for depleting stratospheric ozone.

The fee imposed by S. 503 is to be absorbed by the chemical manufacturers, keeping the price of ozone-depleting chemicals stable. The fee is adjustable, to capture any windfall profits that producers realize as supplies drop during the phaseout period and thus prevent the manufacturers from inflating the price of the chemicals being phased out.

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S. 871 provides for putting one-half of the revenues from the manufacturers' excise tax into an ozone layer conservation trust fund. This would equal \$200 million in the first year, rising to \$750 million in the fifth year; the remainder of revenues from the manufacturers' excise tax would go to the Treasury. Expenditures from the Trust Fund would provide for government-industry cooperation in research, development, and market incentives for non-ozone-depleting chemical and technological alternatives to ozone-depleting substances. In addition, the federal government would investigate the means by which it might assist United States manufacturers of such technological alternatives in exporting the alternatives for applications in developing and developed countries. S. 871 also incorporates several provisions modeled on past government-industry cooperative efforts to build new industries, such as block federal purchases of new technologies meeting specified performance standards.

S. 503 provides that up to \$100 million of the fee revenues are put into a trust fund annually to provide grants to producers and users to develop substitutes and alternatives to products now manufactured by ozone-depleting chemicals, with the rest going to the Treasury. S. 503 does not provide for the creation of markets for alternative technologies, but instead focuses on providing funding for research. Thirty percent of the trust funds are dedicated to funding research into substitutes for ozone-depleting chemicals and, 70% to support research into alternative products that are produced without ozone-depleting chemicals.

By putting the fee and tax revenues into a trust fund, both S. 871 and S. 503 ensure that a portion of the funds collected from the sale of ozone-depleting substances are used to support efforts for finding alternatives to technologies based on these substances.

3. Comparison of S. 872 to S. 333 and S. 491.

LISTING OF REGULATED SUBSTANCES

S. 872 requires the Administrator of the Environmental Protection Agency to publish lists of manufactured substances that are known or may reasonably be anticipated to cause or contribute to ozone depletion in the upper atmosphere. S. 333 and S. 491 have similar provisions, with some differences in the particular compounds to be included on each list. Following is a summary of these differences:

CFC-11	yes	yes	yes
CFC-12	yes	yes	yes
CFC-22	yes	yes	yes
CFC-113	yes	yes	yes
CFC-114	yes	yes	yes
CFC-115	yes	yes	yes
CFC-123	no	no	yes
CFC-124	no	no	yes
CFC-141	no	no	yes
CFC-142	no	no	yes
methyl chloroform	yes	yes	yes
methylene chloride	yes	yes	yes
carbon tetrachloride	yes	yes	yes
halon-1211	yes	yes	yes
halon-1301	yes	yes	yes
halon-2402	no	no	yes

Although S. 491 regulates a number of substances, only those noted below are actually phased out. S. 872, S. 333, and S. 491 require the Administrator of the Environmental Protection Agency to assign an ozone depletion factor to each listed substance. The ozone-depletion factor is a numerical value representing the ozone depletion potential of each manufactured substance, on a mass basis, as compared to CFC-11.

PRODUCTION PHASEOUT

S. 872, S. 333, and S. 491 all require the phaseout of the production of ozone-depleting substances, but differ in the schedule for the phaseout and the compounds to be eliminated. Following is a summary of the compounds to be phased out and the schedule for doing so in each bill:

<u>Compound</u>	<u>S. 871</u>	<u>S. 333</u>	<u>S. 491</u>
CFC-11	5 yr	1996	1997
CFC-12	5 yr	1996	1997
CFC-22	10 yr	2000	n/a
CFC-113	5 yr	1996	1997
CFC-114	10 yr	2000	1997
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CFC-123	n/a	n/a	n/a
CFC-124	n/a	n/a	n/a
CFC-141	n/a	n/a	n/a
CFC-142	n/a	n/a	n/a
methyl chloroform	10 yr	1996	1997
methylene chloride	10 yr	2000	n/a
carbon tetrachloride	5 yr	2000	n/a
halon-1211	5 yr	1996	1997

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CFC-114	yes	yes	yes
CFC-115	yes	yes	yes
CFC-123	no	no	yes
CFC-124	no	no	yes
CFC-125	no	no	yes
CFC-141	no	no	yes
CFC-142	no	no	yes
methyl chloroform	yes	yes	yes
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S. 872, S. 333, and S. 491 require the Administrator of the Environmental Protection Agency to assign an ozone depletion factor to each listed substance. The ozone-depletion factor is a numerical value representing the ozone depletion potential of each manufactured substance, on a mass basis, as compared to CFC-11.

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CFC-124	n/a	n/a	n/a
CFC-125	n/a	n/a	n/a
CFC-141	n/a	n/a	n/a
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methyl chloroform	10 yr	1996	1997
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halon-1211	5 yr	1996	1997
halon-1301	5 yr	1996	1997
halon-2402	n/a	n/a	1997

MANUFACTURE AND DISPOSAL

S. 872 and S. 333 prohibit the manufacture, distribution, and use of any ozone-depleting substance except in a totally enclosed manner, and require that the substance be disposed of in a way that ensures that the substance will not be released to the environment. They also require that ozone-depleting substances be removed from appliances, machines, or other goods before those goods are disposed of.

S. 491 requires the establishment of standards and requirements for the use of ozone-depleting substances and prohibits the use, release, or disposal of any ozone-depleting substance in a fashion that permits the release of the substance to the atmosphere.

LIMITATION ON OZONE DEPLETION POTENTIAL

S. 872, S. 333, and S. 491 place limits on the total ozone depletion potential of the substances produced by any person. This limit on total ozone depletion potential is gradually lowered to zero ten years after enactment in the case of S. 872, and by 2000 in the case of S. 333. S. 491 requires a 95 percent reduction in the total ozone depletion potential by 1997.

PRODUCTION PHASE-OUT EXCEPTION FOR NATIONAL SECURITY

S. 872 and S. 333 allow the production and use of halo-1211 and halon-1301 as may be necessary to protect the national security interests of the United States. S. 491 extends this exception to halon-2402.

CERTIFICATION OF EQUIVALENT PROGRAMS

S. 872, S. 333, and S. 491 all require certification that foreign countries have equivalent phaseout programs in place before allowing products that contain or are

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SAFE ALTERNATIVES POLICY

S. 872 establishes the policy that the ozone-depleting substances to be phased out will be replaced, to the maximum extent possible, by chemicals, product substitutes, or alternative manufacturing processes that reduce overall risks to public health and the environment. It also calls on the Environmental Protection Agency to review and report on the alternatives being considered, and assess their risks to public health and the environment. The requirement of such an assessment assures that alternatives to ozone-depleting substances are not more risky to human health and the environment than the substances they are replacing.

S. 333 and S. 491 do not have comparable provisions.

halon-1301	5 yr	1996	1997
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S. 491 requires the establishment of standards and requirements for the use of ozone-depleting substances and prohibits the use, release, or disposal of any ozone-depleting substance in a fashion that permits the release of the substance to the atmosphere.

LIMITATION ON OZONE DEPLETION POTENTIAL

S. 872, S. 333, and S. 491 place limits on the total ozone depletion potential of the substances produced by any person. *reduced by 95 percent* ~~This limit on total ozone depletion potential is gradually lowered to zero five years after enactment in the case of S. 872, and by 1995 in the case of S. 333.~~ *four* S. 491 requires a 95 percent reduction in the total ozone depletion potential by 1997.

with a complete phase out 10 years after enactment

producer of ozone-depleting substances

50 percent by 1997

with a complete phase out by 2000

PRODUCTION PHASE-OUT EXCEPTION FOR NATIONAL SECURITY

S. 872 and S. 333 allow the production and use of halo-1211 and halon-1301 as may be necessary to protect the national security interests of the United States. S. 491 extends this exception to halon-2402.

CERTIFICATION OF EQUIVALENT PROGRAMS

S. 872, S. 333, and S. 491 all require certification that foreign countries have equivalent phaseout programs in place before allowing products that contain or are manufactured with ozone-depleting substances to be imported into the United States.

SAFE ALTERNATIVES POLICY

S. 872 establishes the policy that the ozone-depleting substances to be phased out will be replaced, to the maximum extent possible, by chemicals, product substitutes, or alternative manufacturing processes that reduce overall risks to public health and the environment. It also calls on the Environmental Protection Agency to review and report on the alternatives being considered, and assess their risks to public health and the environment. The requirement of such an assessment assures that alternatives to ozone-depleting substances are not more risky to human health and the environment than the substances they are replacing.

S. 333 and S. 491 do not have comparable provisions.

SOME

SIDE-BY-SIDE COMPARISON OF PROVISIONS CONTAINED IN S. 870, S. 871, and S. 872, TO COMPARABLE PROVISIONS IN S. 333, S. 491, AND S. 503

The following is a comparison of some major provisions contained in S. 870, S. 871, and S. 872, to comparable provisions contained in S. 333, S. 491, and S. 503.

1. Comparison of S. 870 to S. 333, S. 491, and S. 503.

MOBILE AIR-CONDITIONERS

S. 870 regulates auto air conditioner servicing, to ensure that chlorofluorocarbons (CFCs) are recaptured and recycled, and not unnecessarily vented to the atmosphere. About 30% of U.S. emissions of CFC-12 originate from auto air conditioners, and about three-quarters of those emissions occur during maintenance and recharging. S. 870 also eliminates the sale of CFC-containing air conditioner recharge cannisters smaller than 30 pounds, thus effectively limiting the sale of CFC-containing air conditioner fluid to bulk purchasers (i.e., servicers) only. Finally, S. 870 requires that servicers recharging auto air conditioners with CFC-containing fluids first test the system for leaks and repair those leaks before recharging.

S. 333, S. 491, and S. 503 do not have comparable provisions targeted specifically at mobile air-conditioners and eliminating the sale of recharge cannisters smaller than thirty pounds, but both S. 333 and S. 491 have more general provisions that might have applications in this area. (S. 872 also contains similar general provisions).

FIRE EXTINGUISHERS FOR CONSUMER APPLICATIONS

S. 870 bans the sale and distribution of fire extinguishers containing halons or other ozone-depleting substances for routine consumer applications, except in cases where such fire extinguishers are required by federal law.

S. 333, S. 491, and S. 503 do not have comparable provisions targeted specifically at eliminating the sale of halon-containing fire extinguishers for consumer

applications, but both S. 333 and S. 491 have more general provisions that could indirectly affect those products. (S. 872 contains similar general provisions.) ✓

NONESSENTIAL CONSUMER PRODUCTS CONTAINING CHLOROFLUOROCARBONS

S. 870 bans the sale and distribution of non-essential consumer products that are capable of releasing ozone-depleting substances into the atmosphere. These products include chlorofluorocarbon-containing plastic party streamers and noise horns, chlorofluorocarbon-containing cleaning fluids for electronic and photographic equipment, and others.

S. 333, S. 491, and S. 503 do not have comparable provisions.

LABELING REQUIREMENTS

S. 870 requires the labeling of consumer products that contain, are produced with, or are produced from an ozone-depleting substance. These labels would warn the purchaser that the product's contents or manufacturing process pose a danger to the stratospheric ozone layer, and that depletion of the ozone layer could lead to increased risk of skin cancer and damage to natural systems, including food production.

The labeling provisions in S. 333 and S. 491 are similar. ~~S. 503 has no similar provision.~~

CHLOROFLUOROCARBON AND HALON RECLAMATION PLAN

S. 870 calls for the development of a plan for ensuring the most effective means of achieving widespread reclamation, recycling, or regulated disposal of ozone-depleting substances.

S. 491 requires the ^{development of} ~~Administrator of the Environmental Protection Agency to promulgate regulations~~ establishing standards for the recapture, recycling, and safe disposal of ozone-depleting substances.

2. Comparison of S. 871 to S. 503.

MANUFACTURERS' EXCISE TAX ON CHEMICALS THAT DEplete THE OZONE LAYER

S. 871 amends the Internal Revenue Code of 1986 to impose a manufacturers' excise tax on certain chemicals that deplete the stratospheric ozone layer. The amount of the tax is adjusted for each chemical, depending on the chemical's potential for depleting stratospheric ozone.

The tax imposed by S. 871 can be passed on to purchasers of ozone-depleting chemicals, raising the price of the chemicals; thus, market forces are used to decrease the demand for the more dangerous chemicals. The increased price due to the tax effectively "internalizes" the environmental costs into the costs of the product (similar to the logic of those who would call for a carbon dioxide tax to reduce greenhouse gas emissions). If the price is not raised, no incentive is provided for consumers to demand the less-dangerous chemicals. The higher price also makes the environmentally safer substitutes more economically competitive with some traditionally very-low-cost ozone-depleting chemicals, and will eventually provide users with the incentive to recapture and recycle the most dangerous ozone-depleting chemicals.

Same The tax does not provide for adjustment to capture windfall profits. Companies are expected to use ~~these~~ ^{to the extent that they occur -- in order} profits to finance research and development of alternatives. Because ~~these~~ ^{such} products ~~is~~ ^{are} being phased out, the companies should require those revenues to finance a substantial research and development effort. ~~the traditional~~

S. 503 imposes a fee on the production and importation of ozone-depleting chemicals. An ozone depletion potential is assigned to each of the substances, and a fee is set ^{based} on ~~each unit of chemical produced.~~ ^{the chemical's...}

The fee imposed by S. 503 is to be absorbed by the chemical manufacturers, keeping the price of ozone-depleting chemicals stable. The fee is adjustable, to capture any windfall profits that producers realize as supplies drop during the phaseout period and thus prevent the manufacturers from inflating the price of the chemicals being phased out.

OZONE LAYER CONSERVATION TRUST FUND

S. 871 provides for putting one-half of the revenues from the manufacturers' excise tax into an ozone layer conservation trust fund. This would equal \$200 million in the first year, rising to \$750 ~~million~~ ^{MILLION} in the fifth year; the remainder of revenues from the manufacturers' excise tax would go to the Treasury. Expenditures from the Trust

Fund would provide for government-industry cooperation in research, development, and market incentives for non-ozone-depleting chemical and technological alternatives to ozone-depleting substances. In addition, the federal government would investigate the means by which it might assist United States manufacturers of such technological alternatives in exporting the alternatives for applications in developing and developed countries. S. 871 also incorporates several provisions modeled on past government-industry cooperative efforts to build new industries, such as block federal purchases of new technology meeting specified performance standards.

lies

S. 503 provides that up to \$100 million of the fee revenues are put into a trust fund annually to provide grants to producers and users to develop substitutes and alternatives to products now manufactured by ozone-depleting chemicals, with the rest going to the Treasury. S. 503 does not provide for the creation of markets for alternative technologies, but instead focuses on providing funding for research. Thirty percent of the trust funds are dedicated to funding research into substitutes for ozone-depleting chemicals and, 70% to support research into alternative products that are produced without ozone-depleting chemicals.

By putting the fee and tax revenues into a trust fund, both S. 871 and S. 503 ensure that a portion of the funds collected from the sale of ozone-depleting substances are used to support efforts for finding alternatives to technologies based on these substances.

3. Comparison of S. 872 to S. 333 and S. 491.

LISTING OF REGULATED SUBSTANCES

S. 872 requires the Administrator of the Environmental Protection Agency to publish lists of manufactured substances that are known or may reasonably be anticipated to cause or contribute to ozone depletion in the upper atmosphere. S. 333 and S. 491 have similar provisions, with some differences in the particular compounds to be included on each list. Following is a summary of these differences:

<u>Compound</u>	<u>S. 872</u>	<u>S. 333</u>	<u>S. 491</u>
CFC-11	yes	yes	yes
CFC-12	yes	yes	yes

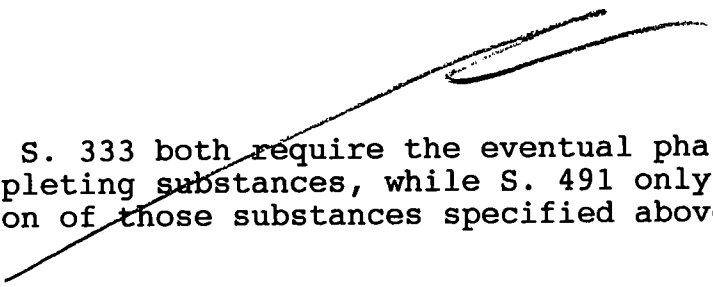
CFC-22	yes	yes	yes
CFC-113	yes	yes	yes
CFC-114	yes	yes	yes
CFC-115	yes	yes	yes
CFC-123	no	no	yes
CFC-124	no	no	yes
CFC-141	no	no	yes
CFC-142	no	no	yes
methyl chloroform	yes	yes	yes
methylene chloride	yes	yes	yes
carbon tetrachloride	yes	yes	yes
halon-1211	yes	yes	yes
halon-1301	yes	yes	yes
halon-2402	no	no	yes

Although S. 491 regulates a number of substances, only those noted below are actually phased out. S. 872, S. 333, and S. 491 require the Administrator of the Environmental Protection Agency to assign an ozone depletion factor to each listed substance. The ozone-depletion factor is a numerical value representing the ozone depletion potential of each manufactured substance, on a mass basis, as compared to CFC-11.

PRODUCTION PHASEOUT

S. 872, S. 333, and S. 491 all require the phaseout of the production of ozone-depleting substances, but differ in the schedule for the phaseout and the compounds to be eliminated. Following is a summary of the compounds to be phased out and the schedule for doing so in each bill:

<u>Compound</u>	<u>S. 871</u>	<u>S. 333</u>	<u>S. 491</u>
CFC-11	sw/in 5 yr	1996	1997
CFC-12	5 yr	1996	1997
CFC-22	10 yr	2000	n/a
CFC-113	5 yr	1996	1997
CFC-114	10 yr	2000	1997
CFC-115	10 yr	2000	1997
CFC-123	n/a	n/a	n/a
CFC-124	n/a	n/a	n/a
CFC-141(b)	n/a	n/a	n/a
CFC-142(b)	n/a	n/a	n/a
methyl chloroform	10 yr	1996	1997
methylene chloride	10 yr	2000	n/a
carbon tetrachloride	5 yr	2000	n/a
halon-1211	5 yr	1996	1997
halon-1301	5 yr	1996	1997
halon-2402	n/a	n/a	1997


S. 872 and S. 333 both require the eventual phase-out of all ozone-depleting substances, while S. 491 only requires the elimination of those substances specified above.

MANUFACTURE AND DISPOSAL

S. 872 and S. 333 prohibit the manufacture, process, distribution, and use of any ozone-depleting substance except in a totally enclosed manner, and require that the substance be disposed of in a way that ensures that the substance will not be released to the environment. They also require that ozone-depleting substances be removed from appliances, machines, or other goods before those goods are disposed of.

S. 491 requires the establishment of standards and requirements for the use of ozone-depleting substances and prohibits the use, release, or disposal of any ozone-depleting substance in a fashion that permits the release of the substance to the atmosphere.

LIMITATION ON OZONE DEPLETION POTENTIAL

S. 872, S. 333, and S. 491 place limits on the total ozone depletion potential of the substances produced by any person. This limit on total ozone depletion potential is gradually lowered to zero five years after enactment in the case of S. 872, and by 1996 in the case of S. 333. S. 491 requires a 95 percent reduction in the total ozone depletion potential by 1997.

PRODUCTION PHASE-OUT EXCEPTION FOR NATIONAL SECURITY

S. 872 and S. 333 allow the production and use of halo-1211 and halon-1301 as may be necessary to protect the national security interests of the United States. S. 491 extends this exception to halon-2402.

CERTIFICATION OF EQUIVALENT PROGRAMS

S. 872, S. 333, and S. 491 all require certification that foreign countries have equivalent phaseout programs in place before allowing products that contain or are manufactured with ozone-depleting substances to be imported in to the United States.

SAFE ALTERNATIVES POLICY



S. 872 establishes the policy that the ozone-depleting substances to be phased out will be replaced, to the maximum extent possible, by chemicals, product substitutes, or alternative manufacturing processes that reduce overall risks to public health and the environment. It also calls on the Environmental Protection Agency to review and report on the alternatives being considered, and assess their risks to public health and the environment. The requirement of such an assessment assures that alternatives to ozone-depleting substances are not more risky to human health and the environment than the substances they are replacing.

S. 333 and S. 491 do not have comparable provisions.

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101ST CONGRESS
1ST SESSION

S. 333

Entitled the "Global Environmental Protection Act of 1989".

IN THE SENATE OF THE UNITED STATES

FEBRUARY 2 (legislative day, JANUARY 3), 1989

Mr. LEAHY (for himself and Mr. JEFFORDS) introduced the following bill; which was read twice and referred to the Committee on Environment and Public Works

A BILL

Entitled the "Global Environmental Protection Act of 1989".

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 SECTION 1. SHORT TITLE. -

4 This Act may be cited as the "Global Environmental
5 Protection Act of 1989".

6 SEC. 2. FINDINGS.

7 The Congress, recognizing the profound, irreversible
8 and potentially catastrophic impacts of humanity's activities
9 on the global atmosphere and the world's environment, and
10 the inability of science to predict with certainty the conse-
11 quences for humanity of any such changes, hereby declares

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101ST CONGRESS
1ST SESSION

S. 872

To phaseout production of certain ozone-depleting chemicals; to institute a policy promoting safe alternatives to ozone-depleting chemicals, and for other purposes.

IN THE SENATE OF THE UNITED STATES

MAY 1 (legislative day, JANUARY 3), 1989

Mr. GORE introduced the following bill; which was read twice and referred to the Committee on Environment and Public Works

A BILL

To phaseout production of certain ozone-depleting chemicals; to institute a policy promoting safe alternatives to ozone-depleting chemicals, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 SECTION 1. SHORT TITLE.

4 This Act may be cited as the "Upper-Ozone Chemicals
5 Act of 1989".

6 SEC. 2. FINDINGS.

7 The Congress finds that because no level of strato-
8 spheric ozone depletion or global climate change caused by
9 human activities can be deemed safe—

M E M O R A N D U M

DATE: May 18, 1989

TO: Al

FROM: Rick

SUBJECT: CFC/Ozone Hearing Tomorrow

The Subcommittee on Environmental Protection (Baucus chairs) of the Environment and Public Works Committee is holding hearings tomorrow on pending CFC legislation. Bills from you, Baucus, Chafee, and Leahy will be discussed. You will testify in the first panel, after Leahy. Baucus and Chafee are on the Committee.

The hearing will focus mainly on the Baucus and Chafee bills. They were the only original co-sponsors of each bill.

BAUCUS BILL

Assigns an ozone depletion potential to each of the substances, and sets a FEE (not "tax") on each pound of CFC or halon produced. The fee begins at 25 cents and increases annually until it reaches \$2.50 per pound in 1994. Up to \$100 million of the fees collected would be used to set up a trust fund to provide grants to producers and users to develop substitutes and alternatives to products now manufactured by the chemicals.

CHAFEE BILL

Phases out CFC-11, -12, -113, -114, -115, methyl chloroform, halon-1211, -1301, -2402 on the following schedule: freeze production -- on July 1, 1989 -- at 1986 levels; reduce production -- on July 1, 1992 -- to 80% of 1986 levels; reduce production -- on July 1, 1995 -- to 50% of 1986 production levels; eliminate production entirely on July 1, 1997.

Other provisions are similar to yours: exceptions for national security, use the chemicals in enclosed areas to reduce emissions, certify that other nations from which we import CFC-containing equipment have similar programs, other minor considerations (you have these provisions in S.872).

LEAHY BILL

Basically, Leahy introduced Stafford's bill from last Congress -- so it should be similar to our ozone provisions in S.201 (we got most of them from Stafford's bill). His phaseout schedule is listed below.

Leahy may also mention his and Kerry and Gore's (we got you on as an original co-sponser) auto A/C bill that was introduced today. You should tell Leahy before the hearing that you're an original co-sponser with him, because he probably won't have gotten the word from staff. If he mentions it, then he'll have to include you. And remember, your five-year CFC-12 production phaseout essentially does the same thing. The auto A/C bill mandates that "a minimum of 25% of the motor vehicles with air conditioners sold in the U.S. in 1993 use alternative refrigerants which are far less harmful to the environment. The phaseout process continues to increase to 50% by 1994 and 100% in 1995." (I'm taking this information from a press release.)

GORE BILLS

I've forwarded the summaries of S.870, 871, and 872 for your review.

DIFFERENCES AND POSSIBLE CONFLICTS

1. Chafee and Gore phaseouts compare as follows:

	Gore	Chafee	Leahy
CFC-11	w/in 5 yr	1997	1996
CFC-12	5 yr	1997	1996
CFC-22	10 yr	n/a	2000
CFC-113	5 yr	1997	1996
CFC-114	10 yr	1997	2000
CFC-115	10 yr	1997	2000
methyl chloroform	10 yr	1997	2000
halon-1211	5 yr	1997	1996
halon-1301	5 yr	1997	1996
halon-2402	n/a	1997	n/a
carbon tetrachloride	5 yr	n/a	2000
methylene chloride	10 yr	n/a	2000

The most dangerous ozone depleters/greenhouse gases, as I see it, are CFC-11 and CFC-12. CFC-113 (used as a solvent), halon-1211, and halon 1301 are other important ozone depleters. We included carbon tetrachloride in our five-year phaseout after the alarms sounded by Bob Watson at your Arctic ozone hearing, and the strong impact that carbon tetrachloride reductions have in lowering atmospheric chlorine loadings, according to EPA models. Carbon tetrachloride is used worldwide, in the Third World and East Bloc, in particular. It is used as a feedstock from which

to manufacture CFCs, and as an industrial solvent. It is very toxic.

On April 17, EPA issued an "Advance Notice of Proposed Rulemaking" (ANPRM) to the effect that it intended to add methyl chloroform and carbon tetrachloride to the list of ozone-depleting chemicals already regulated by the Montreal Protocol.

2. Gore and Baucus tax and fee compare as follows:

(a) Gore tax can be passed on to CFC consumers, raising the price of CFCs; Baucus fee is to be absorbed by the CFC manufacturers, keeping the price of CFCs stable.

Argument to support Gore approach is that higher prices use the market to decrease demand for the more dangerous chemicals; the increased price due to the tax effectively "internalizes" the environmental costs into the costs of the product (similar logic is used by those who would call for a CO2 tax). If you do not raise the price, you provide no incentive for consumers to demand the less dangerous chemicals. In addition, the higher price makes the substitutes more economically competitive with the traditionally very-low-cost CFCs. Finally, the higher price will eventually provide users with the incentive to recapture and recycle the most dangerous ozone-depleting chemicals.

(b) Baucus fee is adjustable, to capture any windfall profits that CFC producers realize as supplies drop during the phaseout; Gore tax does not provide for adjustment to capture windfall profits.

Argument to support Gore approach is that the companies will supposedly be using those profits to finance R&D into alternatives. We are, in effect, giving the companies the benefit of the doubt when they argue that we undermine their ability to produce alternatives when we simultaneously rake off their profits. We're phasing out their product already -- in our case, on the fastest timetable yet proposed. Under the Gore phaseout proposal, they will need those revenues to finance a crash R&D effort. We are not trying to disadvantage U.S. companies, we want them to find the solutions and improve our economic competitiveness in the process.

(c) Compare Gore and Baucus Trust Funds.

Basically, they are very similar in nature -- both fund R&D into alternative chemicals and technologies. Your Trust Fund gets 50% of the revenues from the excise tax (200 million in the first year, etc. -- refer to S.871 summary

for revenues from excise tax) and the rest go to the Treasury. Baucus puts up to 100 million into his trust fund, the rest to Treasury. Your Trust Fund incorporates unique provisions modeled on my awareness of past government-industry cooperative efforts to build a new industry (such as the solar photovoltaic industry in the late 1970s) -- such as block federal purchases of new technology meeting specified performance standards. This type of approach adds to the market incentive to produce such alternative technologies.

(d) Bottom Line: You have introduced a comprehensive package in S.870, 871, and 872. The provisions of S.871 (excise tax and Trust Fund) are necessary complements to the other bills. For example, higher prices encourage recapture and recycling, and make alternatives more economically competitive.

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101ST CONGRESS
1ST SESSION

S. 870

To label consumer products containing substances that contribute to the depletion of the ozone layer in the upper atmosphere, to regulate the sale, distribution, and use of such substances in consumer products and services in and affecting interstate commerce, to recapture and recycle such substances, and for other purposes.

IN THE SENATE OF THE UNITED STATES

MAY 1 (legislative day, JANUARY 3), 1989

Mr. GORE introduced the following bill; which was read twice and referred to the Committee on Commerce, Science, and Transportation

A BILL

To label consumer products containing substances that contribute to the depletion of the ozone layer in the upper atmosphere, to regulate the sale, distribution, and use of such substances in consumer products and services in and affecting interstate commerce, to recapture and recycle such substances, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the "Consumer Ozone Protec-
5 tion Act of 1989".

By Mr. BAUCUS (for himself and Mr. Burns):

S. 502. A bill to extend the application deadline for assistance under the Impact Aid Program; to the Committee on Labor and Human Resources.

By Mr. BAUCUS (for himself and Mr. Chafee):

S. 503. A bill to protect the ozone layer by reducing chlorofluorocarbons and halons, and for other purposes; to the Committee on Environment and Public Works.

By Mr. GRAHAM (for himself, Mr. Kerry, Mr. McCain, Mr. Durenberger, and Mr. Sanford):

S. 504. A bill to improve the operation of the Caribbean Basin Economic Recovery Act, and for other purposes; to the Committee on Finance.

By Mr. HATCH:

S.J. Res. 70. A bill to designate the month of March 1989, as "Women's History Month"; to the Committee on the Judiciary.

STATEMENTS ON INTRODUCED BILLS AND JOINT RESOLUTIONS

By Mr. CHAFEE (for himself and Mr. BAUCUS):

S. 491. A bill to reduce atmospheric pollution to protect the stratosphere from ozone depletion, and for other purposes; to the Committee on Environment and Public Works.

STRATOSPHERIC OZONE AND CLIMATE PROTECTION ACT

Mr. CHAFEE. Mr. President, with each passing day we have seen more attention being paid to global environmental problems. We are used to attention being paid to national difficulties, but now the global worries are more before us every day.

I think, Mr. President, that if 10 years ago we had stopped a group of people in the street and asked them what they thought about the greenhouse effect or the destruction of the ozone layer, the chances are that the group would have responded with a blank stare.

Now today these issues are high on everyone's worry list. To my mind, that is good news. Before we can solve these problems we have to have widespread recognition of the fact that these global and environmental threats are real and that they are serious. That widespread recognition is now present.

The attention these matters are getting is reflected in the press and in public statements by world leaders such as President Bush, Secretary General Gorbachev of the Soviet Union, and Prime Ministers Thatcher of the United Kingdom, Brundtland of Norway, and Mulroney of Canada. The widespread recognition we need is now here.

Today, on behalf of myself and the chairman of the Senate Subcommittee on Environmental Protection, Senator BAUCUS, I am introducing the Stratospheric Ozone and Climate Protection Act of 1989. This is a revised, updated version of the bill I introduced 2 years ago in February 1987, S. 571. We will be holding hearings in the Committee on Environment and Public Works and

plan to move this bill as quickly as possible.

Mr. President, the main impetus for this legislation is the ongoing destruction of the ozone layer. Chlorofluorocarbons and other manmade chemicals are reacting with and destroying ozone in the stratosphere. As a result we—"we"—meaning the world—are losing the shield that protects us from the Sun's harmful ultraviolet radiation.

What does this all mean? With more radiation pouring through the atmosphere there definitely will be an increased incidence of cancer, skin cancer, and cataracts. Furthermore experts have testified that increased radiation may cause suppression of the body's immune system and make us more susceptible to all sorts of diseases.

Studies on the effects of solar ultraviolet radiation have shown that damage to the stratospheric ozone layer presents a serious threat to our food crops and to all forms of life on land and in the sea.

Equally important is the fact that these chemicals—what we are talking about now is these ozone depleting chemicals, the chlorofluorocarbons, sometimes referred to as CFC's, which are powerful greenhouse gases, the balance of the change coming from the release of carbon dioxides from the burning of fossil fuels, and there are other contributors, as well—in addition to being ozone depleters, are powerful greenhouse gases. They act as a thermal blanket, trapping heat in the Earth's atmosphere and causing temperatures to rise. It is estimated that they contribute around 20 percent to the problem of global climate change. They have to be recaptured, recycled, and safely disposed of and not released.

Finally, the legislation includes trade sanctions that can be used to leverage other countries and convince their governments to adopt phaseout programs similar to ours. The trade provisions are designed to assure that U.S. industries will not be penalized by domestic unilateral action to eliminate CFC's.

In other words, why should we suffer competitively because we have done the right thing for the rest of the world, and our competitors might not. For instance, CFC's are used to clean chips that are used in electronic devices. If a foreign country refuses to, and continues to use CFC's to clean their chips, whereas we banned it, then we will ban the importation of those chips, and it is possible to trace the fact that imported chips have used CFC's as a cleanser and a solvent. Elimination of these chemicals is the most effective, single step we can take to curb the phenomenon known as the greenhouse effect.

By eliminating these harmful chemicals, we will be addressing two problems at once: Destruction of the ozone layer and the threat of uncontrolled global climate change.

This bill has five main elements:

First, it puts the five worst chlorofluorocarbons (CFC's)—numbers 11, 12, 113, 114, and 115—on a phaseout schedule that moves faster and further than the Montreal Protocol; instead of the protocol's 20-percent reduction in 1993 and 50-percent reduction in 1998, my bill calls for a 20-percent reduction in 1992, a 50-percent reduction in 1995, and complete elimination no later than 1997.

Second, where the protocol will only freeze production of the halons and does not regulate methyl chloroform at all, two powerful ozone depleters, my bill puts these chemicals on the same phaseout schedule as the most harmful CFC's.

Third, whereas the Montreal Protocol would allow unlimited growth in the production and use of other, less potent ozone depleting chemicals and, in turn, continue the threat to the ozone layer, my bill places a limit on the growth of such chemicals by requiring that total ozone depletion potential be reduced by 95 percent between now and 1997; the key here is to control the chlorine loading of the atmosphere from all manufactured chemicals.

Fourth, the bill includes a supplement to the production phaseout; recognizing that it would be extremely difficult to eliminate all production and use of these chemicals on a 2- to 3-year timeframe we must, at the very least, eliminate emissions that are destroying the ozone layer; to achieve this, the bill prohibits, as of January 1, 1993, the venting or release of these chemicals into the environment; recapture, recycling, and safe disposal will be required; and

Fifth, 12 months after this bill becomes law, importation of ozone depleting chemicals, and products made with or containing such chemicals, will be prohibited unless EPA certifies that the country of origin is on a phaseout schedule similar to ours.

Prospects for the bill depend on the willingness of other nations to amend the Montreal Protocol and the speed with which the international process moves forward. It is preferable to address the problem through international agreement. No one can argue with that.

My bill includes a phaseout schedule for CFC's and other ozone depleting chemicals that moves faster and further than the Montreal Protocol, which was signed last year, the international agreement that went into effect January 1 this year. Instead of the protocol, the Montreal agreement provided for 20 percent reduction of CFC's in 1993 and 50 percent reduction in 1998. My bill calls for a 20-percent reduction, not in 1993, but in 1992; a 50-percent reduction, not in 1998, but 1995. Furthermore, I have a complete elimination no later than 1997, which is only 8 years from now.

My bill places a limit on the production and use of chemicals that are completely unregulated under the Montreal protocol and requires that total ozone depletion potential be reduced by 95 percent between now and 1997. As a supplement to production controls, the bill seeks to eliminate emissions that are destroying the ozone layer. By 1993, in January, the venting or releasing of these chemicals, and I am not talking now production, I am talking of the release of these CFC's that are in a refrigerator that one might dispose of, or an automobile air conditioner that one might dispose of, no longer can an individual just vent these, let them go up in the stratosphere. They will have to be recaptured, and that is perfectly possible now with the equipment we currently have.

Both President Bush and EPA Administrator Reilly are deeply interested in the CFC problem and I urge them to endorse my proposal. The United States should take a leading role in pressing for elimination of these chemicals by no later than 1997. Informal negotiations will begin this Sunday in London at a meeting called by Prime Minister Thatcher. Formal talks will get under way with the first meeting of the parties to the Montreal protocol that will be held in Helsinki during the latter half of April.

Nevertheless, if the negotiations bog down, we will not sit around and wait. As a major consumer of CFC's we can use our clout as a trading partner. If we are forced to move first, it will have a secondary beneficial effect: Our industry can get the jump on alternatives and be more competitive in the future.

My proposal to eliminate the most harmful CFC's, halons and methyl chloroform, by 1997 may strike some as a tough pill to swallow. I recognize the enforcement difficulties, such as identifying and prosecuting those who release CFC's into the atmosphere or ascertaining whether foreign electronics manufacturers have used CFC solvents. But these problems can be overcome.

True, this bill is strong medicine but I worry that it is not strong enough. We have a very sick patient, a patient who is suffering from a disease that continues to advance like a cancer. With each new study, the scientists discover a new surprise. They are finding that the disease is much more advanced than anyone thought.

It seems that every time we get a piece of good news about the ozone layer, it is followed by a matter of weeks with more bad news.

For example, on September 26, 1987, 24 nations signed the Montreal protocol on substances that deplete the ozone layer. That was a major achievement and gave us reason to cheer. But within 2 weeks we had a new report from Antarctica confirming our worst fears, the "hole" over the Antarctic was worse than we thought and man-

made chemicals such as CFC's were identified as "the smoking gun."

There being no objection, the material was ordered to be printed in the Record, as follows:

In March 1988, the Senate voted to approve ratification of the protocol, another step forward. This time, the bad news came the very next day. The results of an international study on global ozone trends was released by the Ozone Trends Panel, a distinguished group of more than 100 government and academic scientists from around the world. They delivered a startling, sobering and frightening message. The Washington Post headline read: "Evidence of Ozone Depletion Found Over Big Urban Areas: Pattern Widens; Severity Surprises Experts."

By analyzing data collected since 1969, these scientists found that over an area from 40 degrees north—a line running roughly from Philadelphia through Columbus, OH, and Reno—to 53 degrees north—a line running through central Canada—we are destroying ozone at a rate of 2 percent each summer and 5 percent each winter. This area includes most of Europe and China.

From 53 degrees north to 64 degrees north—an area covering most of Alaska, northern Canada, and the Soviet Union—we are seeing ozone losses exceeding 6 percent in the wintertime. These numbers are staggering. It is important to note that these measurements are far greater than the depletion that was being predicted by computer models.

In the Southern Hemisphere, the panel reported a year-round depletion of 5 percent or more at all latitudes south of 60 degrees south. This means that the "seasonal hole" over Antarctica is no longer seasonal and that it is getting dangerously close to inhabited portions of South America, Australia, and New Zealand.

Prior to this, many scientists and industry representatives were telling us that the famous "Hole" over Antarctica was an interesting, isolated phenomenon limited to that remote part of the globe. They told us there was no proof that CFC's destroy ozone on a global scale. They told us that warnings from Drs. Rowland and Molina—warnings first issued in the early 1970's about CFCs destroying ozone—were just speculation, they were just theories.

There is no longer any question, Mr. President, we have moved beyond speculation and theory. As Dr. Watson, the NASA scientist who chaired the international panel said: "Things are worse than we thought. There has been a long-term change since 1969 that had not been recognized before."

Dr. John Gille, a scientist with the National Center for Atmospheric Research and one of the leaders of the panel that prepared the report said that, if earlier data had given scien-

tists "a smoking gun," this report had given them "the corpse." He noted that: "For the first time, we have a really definitive answer that ozone has decreased." He said "we understand what is going on and we can predict it will be much more severe in the future."

Following this report, the two major producers of CFC's in this country, du Pont and Allied Signal, stated their intention to phase out production of these chemicals and, in September 1988, then-Administrator of the EPA, Lee Thomas, called for a complete phaseout of ozone depleting CFC's and halons. Several weeks ago, du Pont announced a major breakthrough in the search for safe alternatives. We were back at a high point on the roller coaster, good news abounds.

In keeping with the now well-established pattern, we were due for a new scientific report showing that the problem is worse than we thought. On Friday, February 17, 1989, NASA and NOAA issued a preliminary report from the recent airborne expedition to the Arctic region. As many of us expected, the news was grim.

In scientific jargon, the polar expedition found that the chemical make-up of the atmosphere over the Arctic was extremely perturbed.

This means the scientists have found that the Arctic region is primed for chemical reactions similar to those that are destroying ozone over Antarctica. As in the past, the scientists were surprised. One of the expedition's leaders, NASA's Dr. Watson said that "the incredible perturbation" found in the chemistry of the stratosphere "is a strong message to policymakers."

The message is that nothing less than total elimination of these harmful chemicals will suffice. We need a crash program to find and use safe substitutes as quickly as possible. We have a crisis on our hands and business as usual will not be tolerated.

To those who say it can't be done, I say "it must be done." The time for rhetoric and vague promises is past. The time for action is now.

Mr. President, I ask unanimous consent that a section-by-section analysis of the bill and the text of the bill be printed in the Record.

SECTION-BY-SECTION ANALYSIS OF THE STRATOSPHERIC OZONE AND CLIMATE PROTECTION ACT OF 1989

Section 1. Short Title.

Section 2. Congressional Findings.—Includes findings that manufactured substances, such as chlorofluorocarbons, are polluting the atmosphere and may be contributing to the related environmental problems of stratospheric ozone depletion and global climate change due to the greenhouse effect; these related problems threaten human health and the environment on a global scale; it is necessary to control international trade in chlorofluorocarbons and other ozone depleting substances to protect our global environment; and the United States needs to be the world leader in developing substitutes for these harmful chemicals.

Section 3. Objectives and National Goal.—Establishes as a national goal, the elimination of atmospheric pollution caused by the release of manufactured chemicals, such as chlorofluorocarbons.

Section 4. Definitions.—Includes definitions of "household appliances" and "medical purposes" that receive special consideration under Section 9; "manufactured substances"; and "substances covered by this Act."

Section 5. Listing of Regulated Substances.—There are two lists of regulated substances:—(1) a priority list of chemicals that must be eliminated by the year 1997 (production of certain CFCs, halons and methyl chloroform is to be frozen at 1986 levels in 1989, reduced by 20 percent in 1992, reduced by 50 percent in 1995, and eliminated in 1997 and (2) a list of other chemicals with ozone depletion potential. The priority list includes the most popular and harmful chlorofluorocarbons (11, 12, 113, 114 and 115), halons (1211, 1301 and 2402), and methyl chloroform. The second list includes chemicals such as methylene chloride, carbon tetrachloride, and chlorofluorocarbons 22, 123, 124, 125, 141(b) and 142(b).

The production of chemicals on the second list is regulated and limited on the basis of overall ozone depletion potential. Since the regulated chemicals have differing, relative ozone depletion potential, producers are free to shift their production capacity from a priority list substance to a second list substance or from one second list substance to another, provided the total ozone depletion potential of chemicals manufactured by each producer is reduced significantly over the next several years (based on 1986 levels, ODP must be reduced by 95 percent no later than 1997).

Section 6. Reporting.—Producers of ozone depleting chemicals are required to submit annual reports to the EPA.

Section 7. Production Phase-Out for Priority List.—This section sets forth the phase-out mentioned earlier.

Section 8. National Security Exemption.—This section authorizes the President to modify the controls of halons on the basis of national security needs.

Section 9. Limitation on Use and Disposal.—In addition to the production limitations set forth in the bill, the Administrator is directed to promulgate, by July 1, 1991, regulations that will reduce the use of chemicals that are destroying the ozone layer and increase the recapture and recycling of such chemicals. By 1994, specific regulations are to be in place regarding the recapture, recycling and safe disposal of the regulated chemicals.

To further supplement the production limitations of the bill, as of January 1, 1993, it shall be unlawful for any person to intentionally vent or release into the atmosphere any of the regulated chemicals (other than the halons that are used in fire extinguishers). This provision is premised on the theory that, if we cannot eliminate production of these harmful chemicals by 1993, we must at least eliminate emissions that are destroying the ozone layer and contributing to the greenhouse effect.

Recognizing that (1) there are some essential medical uses for these chemicals for which no safe alternative is likely to be developed, and (2) many people have recently purchased (or are planning to purchase) household appliances that depend on the continued availability of these chemicals, the prohibition on use of chemicals slated for elimination in the year 1997 does not apply to uses for medical purposes and, for a period not to exceed the year 2007, to service and maintain household appliances.

Section 10. Limitation on Ozone Depletion Potential.—This section sets forth the reduction in overall production of ozone depleting substances mentioned earlier.

Section 11. Accelerated Schedule.—Based on new information regarding the severity of the problem or on the availability of safe substitutes, the Administrator is authorized to accelerate the phase out schedule set forth in the bill.

Section 12. Certification of Equivalent Programs.—Chemicals with ozone depleting potential pose a threat to human health and the environment without regard to where such chemicals or products that use such chemicals are made. Protection of the environment necessitates the regulation of international trade and the imposition of import controls that track the domestic controls set forth in this Act. Therefore, unless a country of origin is certified as having a phase-out program similar to this Act, the regulated chemicals (or products) from such country cannot be imported into this country. Similarly, this Act will prohibit the use of the U.S. as a free port for transshipment of such chemicals (or products).

Section 13. Labeling.—All containers of, or products made with, substances covered by this Act must bear a warning label.

Sections 14-19.—Miscellaneous Provisions on Federal Enforcement, Judicial Review, Citizen Suits, Separability, Relationship to Other Laws, and Authority of Administrator.

S. 491

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "Stratospheric Ozone and Climate Protection Act of 1989".

SEC. 2. FINDINGS.

The Congress finds that—

(1) the best available scientific evidence shows that manufactured substances, including chlorofluorocarbons and other substances covered by this Act, are destroying stratospheric ozone, and significantly contributing to global climate change, and other atmospheric modifications;

(2) no level of stratospheric ozone depletion or global climate change caused by human activities can be deemed safe;

(3) stratospheric ozone depletion will lead to increased incidence of solar ultraviolet radiation in the troposphere and at the surface of the Earth;

(4) increased incidence of solar ultraviolet radiation will cause increased rates of disease in humans (including increased rates of skin cancer, cataracts, and, potentially, suppression of the immune system), threaten food crops and marine resources, and otherwise damage the natural environment;

(5) the Montreal Protocol on Substances that Deplete the Ozone Layer provides a framework for all nations of the world to protect the earth's ozone shield;

(6) the Ozone Trends Report completed in March 1988 through the effort of over 100 international scientists found undisputed observational evidence that the atmospheric concentrations of source gases important in controlling stratospheric ozone levels (chlorofluorocarbons, halons, methane, nitrous oxide, and carbon dioxide) are increasing on a global scale as a result of human activities and that observed losses of ozone since 1970 are significantly greater than computer models had predicted, especially over the northern hemisphere during the winter months where losses ranging from 2.3% to 6.2% were observed;

(7) the computer models used in the formulation of the Montreal Protocol predicted that global ozone depletion would reach 0.8% by 1988, the Ozone Trends Report measured global ozone depletion of 2.5%;

(8) there has been a large, sudden, and unexpected decrease in spring-time Antarctic ozone with decreases greater than 50% in the total column, and greater than 95% between an altitude of 15 to 20 kilometers;

(9) scientific expeditions and analyses have established that chlorine compounds derived from emissions of chlorofluorocarbons are responsible for destruction of the stratospheric ozone layer over the Antarctic and the surrounding oceans;

(10) recent scientific reports indicate that a similar destruction of the ozone layer may occur over the Arctic region and that the same chlorine compounds found in the Antarctic region are present in areas of the Arctic ozone layer;

(11) experimental laboratory studies and measurements of ozone depletion suggest that the chemical reactions responsible for destruction of ozone over Antarctic could operate in the aerosol layer of the stratosphere and would not be limited to the polar regions;

(12) the Ozone Trends Report found that, since 1979, ozone appears to have decreased by 5% or more at all latitudes south of 60 degrees south throughout the entire year;

(13) the control measures that are set forth in the Montreal Protocol (a freeze on the consumption of certain chlorofluorocarbons at 1986 levels in 1989 followed by a 20% reduction in 1993 and on additional 30% reduction in 1998, coupled with a freeze on the consumption of certain halons at 1986 levels in 1992) will allow atmospheric concentrations of chlorine to increase by more than a factor of two;

(14) the Ozone Trends Report and other recent scientific studies have raised serious questions about the adequacy of the control measures that are set forth in the Montreal Protocol;

(15) ozone depleting chlorofluorocarbons are powerful greenhouse gases projected to be responsible for 15-25% of global warming and, under the existing Montreal Protocol, 10% of future warming;

(16) stratospheric ozone depletion and global climate change from continued emissions of chlorofluorocarbons and other halogenated chlorocarbons with ozone depleting potential, and emissions of other gases, imperil human health and the environment worldwide;

(17) in order to stabilize and eventually reduce concentrations of chlorine and bromine in the stratosphere, to conserve the stratospheric ozone layer (an exhaustible natural resource), and to reduce the extent of global climate change—

(A) emissions of chlorofluorocarbons and other substances covered by this Act, including halogenated carbons with ozone depleting potential, should be terminated rapidly,

(B) it is necessary to control international trade in substances covered by this Act and products containing or made with processes that use such substances; and

(C) trade with countries that are not parties to the Montreal Protocol should be controlled;

(18) the highest priority must be given to developing and deploying safe and energy efficient substitutes to replace ozone depleting substances as rapidly as possible; and

(19) the United States needs to develop and deploy safe, energy efficient substitutes to replace ozone depleting substances in order to demonstrate to the world its commitment to protect the stratosphere and to limit climate change.

SEC. 2. OBJECTIVES AND NATIONAL GOAL.

(a) The objectives of this Act are to restore and maintain the chemical and physical integrity of the Earth's atmosphere and to protect human health and the global environment from all known and potential dangers due to atmospheric or climatic modification, including stratospheric ozone depletion, that is or may be related to the chlorofluorocarbons or other substances covered by this Act by—

(1) reducing significantly the production and emission into the atmosphere of pollutants caused by human activities,

(2) promoting the rapid development and deployment of energy efficient alternatives to the use of chlorofluorocarbons and other substances covered by this Act,

(3) assuring that such alternatives reduce ozone depleting potential to the maximum extent possible and, at the same time, do not exacerbate the problem of human induced global climate change either directly as radiatively important trace gases or indirectly as substances that reduce the energy efficiency of products which incorporate or use such substances, and

(4) promoting additional scientific research on atmospheric or climatic modification, including stratospheric ozone depletion, and the known and potential adverse effects therefrom on human health and the global environment.

(b) In order to achieve the objectives of this Act, it is the national goal to eliminate atmospheric emissions of manufactured substances with ozone depleting potential as well as direct and indirect global warming potential, including chlorofluorocarbons and other halogenated carbons with ozone depleting and global warming potential, and to reduce to the maximum extent possible emissions of other gases caused by human activities that are likely to affect adversely the global climate.

SEC. 4. DEFINITIONS.

(1) The term "Administrator" means the Administrator of the Environmental Protection Agency.

(2) The term "household appliances" means noncommercial personal effects, including air-conditioners, refrigerators, and motor vehicles.

(3) The term "import" means to land on, bring into, or introduce into, or attempt to land on, bring into, or introduce into, any place subject to the jurisdiction of the United States, whether or not such landing, bringing, or introduction constitutes an importation within the meaning of the customs laws of the United States.

(4) The term "manufactured substances" means any organic or inorganic chemical substances of a particular molecular identity, or any mixture, that has been manufactured for commercial purposes.

(5) The term "medical purposes" means medical devices and diagnostic products (A) for which no safe substitute has been developed and (B) which, after notice and opportunity for public comment, has been approved and determined to be essential by the Commissioner of the Food and Drug Administration, in consultation with the Administrator.

(6) The term "person" means an individual, corporation (including a government corporation), partnership, firm, joint stock company, trust, association, or any other entity, or any officer, employee, agent, department, or instrumentality of the Federal Government, of any State or political subdivision thereof (including any interstate body), or of any foreign government (including any international instrumentality).

(7) The term "substances covered by this Act" means those substances which are

known or may reasonably be anticipated to cause or contribute to atmospheric or climatic modification, including stratospheric ozone depletion, and are listed under subsections (a) or (b) of section 5.

SEC. 5. LISTING OF REGULATED SUBSTANCES.

(a) **PRIORITY LIST AND INITIAL LISTS OF SUBSTANCES TO BE PHASED-OUT.**—Within sixty days after enactment of this Act, the Administrator shall publish a priority list of manufactured substances which are known or may reasonably be anticipated to cause or contribute to atmospheric or climatic modification, including stratospheric ozone depletion. The initial list shall include chlorofluorocarbon-11, chlorofluorocarbon-12, chlorofluorocarbon-113, chlorofluorocarbon-114, chlorofluorocarbon-115, methyl chloroform, halon-1211, halon-1301, and halon-2402.

(b) **OTHER REGULATED SUBSTANCES.**—Simultaneously with publication of the priority list, the Administrator shall create a list of other manufactured substances which, in the judgment of the Administrator, meet the criteria set forth in the first sentence of subsection (a). The list of other substances shall be subject to the limitations on ozone depletion potential under section 10 of this Act and shall include chlorofluorocarbon-22, chlorofluorocarbon-123, chlorofluorocarbon-124, chlorofluorocarbon-125, chlorofluorocarbon-141(b), chlorofluorocarbon-142(b), carbon tetrachloride, and methylene chloride. At least annually thereafter, the Administrator shall publish a proposal to add to such list each other manufactured substance which, in the judgment of the Administrator, meets the criteria set forth in the first sentence of subsection (a). Within one hundred and eighty days of any such proposal, after allowing an opportunity for public comment, the Administrator shall promulgate a regulation adding each such substance to the list, unless the Administrator determines that such substance clearly does not meet the criteria set forth in the first sentence of subsection (a).

(c) **OZONE DEPLETION FACTOR.**—Simultaneously with publication of the lists or additions thereto under this section, and at least annually thereafter, the Administrator shall assign to each listed substance a numerical value representing the ozone depletion potential of such substance, on a mass (per kilogram) basis, as compared with chlorofluorocarbon-11. The numerical value shall, for the purposes of section 10, constitute the ozone depletion factor of each such substance. Unless the Administrator promulgates regulations under this subsection setting forth a different value, the following ozone depletion factors shall apply for each listed substance:

Substance	Ozone depleting factor
Chlorofluorocarbon-11.....	1.0
Chlorofluorocarbon-12.....	1.0
Chlorofluorocarbon-22.....	0.05
Chlorofluorocarbon-113.....	0.8
Chlorofluorocarbon-114.....	1.0
Chlorofluorocarbon-115.....	0.8
Chlorofluorocarbon-123.....	0.02
Chlorofluorocarbon-124.....	0.02
Chlorofluorocarbon-141(b).....	0.1
Chlorofluorocarbon-142(b).....	0.06
Carbon tetrachloride.....	1.08
Methyl chloroform.....	0.10
Halon-1211.....	3.0
Halon-1301.....	10.0
Halon-2402.....	6.0

SEC. 6. REPORTING REQUIREMENTS.

(a) **PRIORITY LIST.**—Within ninety days after enactment of this Act, each person producing a substance listed pursuant to subsection (a) of section 5 shall file a report with the Administrator setting forth the amount of the substance that was produced by such person during calendar year 1988. Not less than annually thereafter, each producer shall file a report with the Administrator setting forth the production levels of such substance in each successive twelve-month period until such producer ceases production of the substance. Each such report shall be signed by a responsible corporate officer.

(b) **OTHER REGULATED SUBSTANCES.**—Within ninety days of the date on which a substance is placed on the list under subsection (b) of section 5, each person shall file a report with the Administrator setting forth the amount of the substance that was produced by such person during the twelve months preceding the date of listing. Not less than annually thereafter, each producer shall file a report with the Administrator setting forth the production levels of such substance in each successive twelve-month period until such producer ceases production of the substance. Each such report shall be signed by a responsible corporate officer.

SEC. 7. PRODUCTION PHASE-OUT OF SUBSTANCES ON THE PRIORITY LIST.

(a) **PRODUCTION FREEZE.**—Effective July 1, 1989, it shall be unlawful for any person to produce a substance listed under subsection (a) of Section 5 in annual quantities greater than that produced by such person during calendar year 1988.

(b) **PHASE ONE REDUCTION.**—Effective July 1, 1992, it shall be unlawful for any person to produce a substance listed under subsection (a) in Section 5 in annual quantities greater than 80 per centum of that produced by such person during calendar year 1988.

(c) **PHASE TWO REDUCTION.**—Effective July 1, 1995, it shall be unlawful for any person to produce a substance listed under subsection (a) in Section 5 in annual quantities greater than 50 per centum of that produced by such person during calendar year 1988.

(d) **PHASE THREE REDUCTION.**—Effective July 1, 1997, it shall be unlawful for any person to produce any quantity of a substance listed under subsection (a) of section 5 unless such person has, in accordance with subsection (e), received prior authorization to produce such substance.

(e) **EXCEPTION FOR MEDICAL PURPOSES.**—Notwithstanding the prohibition set forth in subsection (d), the Administrator, in consultation with the Commissioner of the Food and Drug Administration and after notice and opportunity for public comment, may authorize the production of limited quantities of a substance listed under subsection (a) of section 5 solely for medical purposes if such authorization is determined to be necessary for medical purposes.

SEC. 8. PRODUCTION PHASE-OUT EXCEPTION FOR NATIONAL SECURITY.

The President may issue such orders regarding production and use of halon-1211, halon-1301 and halon-2402, at any specified site or facility as may be necessary to protect the national security interests of the United States if the President finds that adequate substitutes are not available and that the production and use of such substance is necessary to protect such national security interests. Such orders may include, where necessary to protect such interests, an exemption from any requirement contained in this Act. The President shall

notify the Congress within thirty days of the issuance of an order under this paragraph providing for any such exemption. Such notification shall include a statement of the reasons for the granting of the exemption. An exemption under this paragraph shall be for a specified period which may not exceed one year. Additional exemptions may be granted, each upon the President's issuance of a new order under this paragraph. Each such additional exemption shall be for a specified period which may not exceed one year. No exemption shall be granted under this paragraph due to lack of appropriation unless the President shall have specifically requested such appropriation as a part of the budgetary process and the Congress shall have failed to make available such requested appropriation.

SEC. 9. LIMITATIONS ON USE AND DISPOSAL.

(a) The Administrator shall, not later than July 1, 1991, promulgate regulations establishing standards and requirements regarding the use of substances covered by this Act. Such regulations shall include requirements that reduce the use and emission of such substances to the lowest achievable level and may include requirements to use alternative substances (including substances which are not covered by this Act), minimize use of substances covered by this Act, or maximize the recapture and recycling of substances covered by this Act.

(b) The Administration shall promulgate regulations establishing standards and requirements regarding the use of any manufactured substance that may, either directly as a radiatively important trace gas or indirectly as a substance that reduces the energy efficiency of products which incorporate or use such substance, exacerbate the problem of human induced global climate change.

(c) The Administrator shall, before January 1, 1994, promulgate regulations establishing standards and requirements for the recapture, recycling, and safe disposal of substances covered by this Act. Such regulations shall include requirements that:

(1) substances covered by this Act that are contained in bulk in appliances, machines or other goods (including but not limited to refrigerators and air conditioners) shall be removed from each such appliance, machine or other good prior to the disposal of such item;

(2) any appliance, machine or other good containing a substance covered by this Act in bulk shall not be manufactured or distributed in commerce unless it is equipped with a servicing aperture which will allow the recapture of such substance during service and repair of such item; and

(3) any product in which a substance covered by this Act is incorporated so as to constitute an inherent element of such product, including but not limited to rigid and soft foams, shall be disposed of in a manner that prevents the release of such substance into the environment.

(d) Effective January 1, 1993, it shall be unlawful for any person to knowingly vent into the atmosphere or otherwise knowingly use, release or dispose of any substance covered by this Act (other than halon-1211, halon-1301, and halon-2402) in a fashion which permits such substance to enter the environment. Releases associated with the approved use of medical devices and diagnostic products for medical purposes and de minimus releases associated with good faith attempts to recapture and recycle or safely dispose of any substance covered by this Act shall not be covered by the preceding sentence. The first sentence of this subsection shall not apply to releases associated with the servicing or repair of equipment which

contains substances covered by this Act but does not include a servicing aperture which allows the recapture of such substances if, during the first servicing or repair after the effective date of this Act, such servicing aperture or other similar features are installed.

(e) Effective July 1, 1997, it shall be unlawful to introduce into interstate commerce or to use a substance listed under subsection (a) of section 5 except for medical purposes approved by the Commissioner of the Food and Drug Administration, in consultation with the Administrator, and, for a period not to exceed ten years after July 1, 1997, to maintain and service household appliances.

SEC. 10. LIMITATION ON OZONE DEPLETION POTENTIAL.

(a) Effective July 1, 1989, it shall be unlawful for any person to produce substances covered by this Act in annual quantities that, based upon the ozone depletion factor assigned to each such substance under subsection (c) of section 5, yield a total ozone depletion potential greater than that produced by such person during calendar year 1986. The prohibition set forth in the preceding sentence shall remain in effect until the effective date of regulations promulgated in accordance with subsection (b) or July 1, 1993, whichever is earlier.

(b) Prior to July 1, 1992, the Administrator shall promulgate regulations establishing production limitations for substances covered by this Act that, based upon the ozone depletion factor assigned to each such substance under subsection (c) of section 5 and calendar year 1986 production levels, yield not less than a 95 per centum reduction in total ozone depletion potential in 1997. If the Administrator fails to promulgate regulations in accordance with this subsection, effective July 1, 1997 it shall be unlawful for any person to produce substances covered by this Act in annual quantities that, based upon the ozone depletion factor assigned to each such substance under subsection (c) of section 5, yield a total ozone depletion potential greater than 5 per centum of that produced by such person during calendar year 1986.

SEC. 11. ACCELERATED SCHEDULE.

The Administrator shall promulgate regulations, after notice and opportunity for public comment, which require each producer to reduce its production of—

(1) a substance listed under subsection (a) of section 5 more rapidly than the schedule provided under this Act; or

(2) a substance listed under subsection (b) of section 5 on a specific schedule not otherwise provided for in this Act

If the Administrator determines that such revised or specific schedule (A) based on new information regarding the harmful effects on the stratosphere or climate which may be associated with a listed substance, may be necessary to protect human health and the environment or (B) based on the availability of substitutes for a listed substance, is attainable. Any person may petition the Administrator to issue such regulations. The Administrator shall issue such regulations within one hundred and eighty days after receipt of any such petition, unless the Administrator determines that such regulations are not necessary and denies the petition. No less often than every 18 months, the Administrator shall, in response to a petition or otherwise, either publish such regulations or a determination that such regulations are not necessary.

SEC. 12. CERTIFICATION OF EQUIVALENT PROGRAMS.

(a) IMPORTS.—Effective twelve months after the date on which a substance is

placed on the priority list under subsection (a) of section 5, it shall be unlawful for any person to import such substance, any product containing such substance, or any product manufactured with a process that uses such substance unless the Administrator, in consultation with the Secretary of State (the Secretary), has published a decision, after notice and opportunity for public comment, certifying that the nations in which such substance or product was manufactured and from which such substance or product is imported have established and are fully implementing programs that require reduced production of such listed substance, and limit production of other substances covered by this Act, on a schedule and in a manner that is at least as stringent as the reduction schedule for, and limitations on, domestic production which apply under this Act. The prohibition on the import of any product manufactured with a process that uses a substance listed under subsection (a) of section 5 shall include, after notice and opportunity for public comment, any product which the Administrator has reason to believe may have been manufactured with a process that uses such substance. The Administrator's decision that a product may have been manufactured with a process that uses such substance shall constitute a rebuttable presumption.

(b) CERTIFICATION OF NATIONAL PROGRAM.—The Administrator shall not certify any national program under subsection (a) unless it is determined that—

(1) the Nation has adopted legislation or regulations which give the reduction schedule for each listed substance the force of law; and

(2) the legislation or regulations include reporting requirements and enforcement provisions no less stringent than those specified in sections 6 and 14 of this Act, and that the information contained in such reports is available to the Administrator and the Secretary.

(c) REVOCATION.—At least annually, the Administrator, in consultation with the Secretary, shall review each certification made under this section and shall revoke such certification, after notice and opportunity for public comment, unless it is determined that the conditions of subsections (a) and (b) remain satisfied and that the reduction schedule for each listed substance is in fact being carried out in such nations. Any such revocation shall take effect one hundred and eighty days after notice of the revocation has been published.

(d) ALLOCATION.—Any person who imports a substance covered by this Act or a product containing such substance shall, for the purposes of section 7 (production phaseout for priority list) and section 10 (limitation on ozone depletion potential), shall be deemed to have produced an equivalent amount of such substance on the date of such importation.

SEC. 13. LABELING.

(a) Effective eighteen months after the date on which a substance is placed on a list maintained under subsection (a) or (b) of section 5, no container in which such substance is stored or transported, no product containing such substance, and no product manufactured with a process that uses a listed substance shall be introduced into interstate commerce unless it bears a label stating either of the following, as appropriate:

(1) "Contains (insert name of listed substance) a substance which harms public health and environment by destroying ozone in the upper atmosphere and by disrupting the climate".

(2) "Manufactured with (insert name of listed substance) a substance which harms public health and environment by destroying ozone in the upper atmosphere and by disrupting the climate".

The Administrator shall issue regulations to implement the labeling requirements of this section within one year after enactment of this section, after notice and opportunity for public comment. Such regulations shall require all containers and products which are subject to this section and introduced or reintroduced into commerce later than ninety days after promulgation of such regulations to bear the appropriate label.

SEC. 14. FEDERAL ENFORCEMENT.

(a) **COMPLIANCE ORDERS.**—(1) Whenever on the basis of any information the Administrator determines that any person has violated or is in violation of any requirement of this Act, the Administrator may issue an order assessing a civil penalty for any past or current violation, requiring compliance immediately or within a specified time period, or both, or the Administrator may commence a civil action in the United States district court in the district in which the violation occurred for appropriate relief, including a temporary or permanent injunction.

(2) Any order issued pursuant to this subsection may include a suspension or revocation of any permit issued by the Administrator under this Act and shall state with reasonable specificity the nature of the violation. Any penalty assessed in the order shall not exceed \$25,000 per day of noncompliance for each violation of a requirement of this Act. In assessing such a penalty, the Administrator shall take into account the seriousness of the violation and any good faith efforts to comply with applicable requirements.

(b) **PUBLIC HEARING.**—Any order issued under this section shall become final unless, no later than thirty days after the order is served, the person or persons named therein request a public hearing. Upon such request the Administrator shall promptly conduct a public hearing. In connection with any proceeding under this section the Administrator may issue subpoenas for the attendance and testimony of witnesses and the production of relevant papers, books, and documents, and may promulgate rules for discovery procedures.

(c) **VIOLATION OF COMPLIANCE ORDERS.**—If a violator fails to take corrective action within the time specified in a compliance order, the Administrator may assess a civil penalty of not more than \$25,000 for each day of continued noncompliance with the order and the Administrator may suspend or revoke any permit issued to the violator.

(d) **CRIMINAL PENALTIES.**—Any person who—

(1) knowingly exceeds the production limits under section 7 (production phase-out for initial list) or section 10 (limitation on ozone depletion potential);

(2) knowingly introduces into interstate commerce a substance that was produced in violation of section 7 or section 10;

(3) knowingly imports a substance listed under subsection (a) of section 5, a product containing such substance, or a product manufactured with a process that uses such substance, in violation of section 12 (certification of equivalent programs);

(4) knowingly vents or releases a substance into the environment in violation of section 9 (limitations on use and disposal);

(5) knowingly introduces into interstate commerce a substance or product in violation of section 9 (limitation on use and disposal) or section 13 (labeling);

(6) knowingly omits material information or makes any false material statement or representation in any application, record, report, permit, or other document filed, maintained, or used for purposes of compliance with this Act; or

(7) knowingly produces, transports, distributes, or uses any substance listed under section 5, a product containing such substance, or a product manufactured with a process that uses such substance, and who knowingly destroys, alters, conceals, or fails to file any record, application, report, or other document required to be maintained or filed for purposes of compliance with this Act.

shall, upon conviction, be subject to a fine in accordance with title 18 of the United States Code for each day of a violation, or imprisonment not to exceed two years, or both. If conviction is for a violation committed after a first conviction of such person under this paragraph, the maximum punishment under the respective paragraph shall be doubled with respect to both fine and imprisonment.

(e) **CIVIL PENALTY.**—Any person who violates any requirement of this Act shall be liable to the United States for a civil penalty in an amount not to exceed \$25,000 for each such violation.

(f) **VIOLATIONS.**—Each day of violation of any requirement of this Act shall, for purposes of this section, constitute a separate violation. In addition, for purposes of section 7 (production phase-out for initial list), section 9 (limitation on use and disposal), section 10 (limitation on ozone depletion potential), and paragraphs (1), (2), (3), and (5) of subsection (d) of this section, the production, introduction into commerce, or importation of each one hundred pounds of a substance listed under subsection (a) of section 5 that is in excess of the production limits under section 7 or section 10 shall constitute a separate violation.

SEC. 15. JUDICIAL REVIEW OF FINAL REGULATIONS AND CERTAIN PETITIONS.

Any judicial review of any final action of the Administrator pursuant to this Act shall be in accordance with sections 701 through 706 of title 5 of the United States Code, except that—

(1) a petition for review of any final action of the Administrator may be filed by any interested person in the Circuit Court of Appeals of the United States for the Federal judicial district in which such person resides or transacts business, and such petition shall be filed within ninety days from the date of such promulgation or denial or after such date if such petition is for review based solely on grounds arising after such ninety-day action of the Administrator with respect to which review could have been obtained under this subsection shall not be subject to judicial review in civil or criminal proceedings for enforcement; and

(2) if a party seeking review under this Act applies to the court for leave to adduce additional evidence, and shows to the satisfaction of the court that the information is material and that there were reasonable grounds for the failure to adduce such evidence in the proceeding before the Administrator, the court may order such additional evidence (and evidence in rebuttal thereof) to be taken before the Administrator, and to be adduced upon the hearing in such manner and upon such terms and conditions as the court may deem proper; the Administrator may modify administrative findings as to the facts, or make new findings, by reason of the additional evidence so taken, and shall file with the court such modified or new findings and the Administrator's recommendation, if any, for the modification

or setting aside of the original administrative order, with the return of such additional evidence.

SEC. 16. CITIZEN SUITS.

(a) **IN GENERAL.**—Except as provided in subsection (b) or (c) of this section, any person may commence a civil action on his own behalf—

(1) against any person (including (a) the United States, and (b) any other governmental instrumentality or agency, to the extent permitted by the eleventh amendment to the Constitution) who is alleged to be in violation of any permit, regulation, condition, requirement, prohibition, or order which has become effective pursuant to this Act; or

(2) against the Administrator where there is alleged a failure of the Administrator to perform any act or duty under this Act which is not discretionary with the Administrator. Any action under paragraph (a)(1) of this subsection shall be brought in the district court for the district in which the alleged violation occurred. Any action brought under paragraph (a)(2) of this subsection may be brought in the district court for the district in which the alleged violation occurred or the District Court of the District of Columbia. The district court shall have jurisdiction, without regard to the amount in controversy or the citizenship of the parties, to enforce the permit, regulation, condition, requirement, prohibition, or order, referred to in paragraph (1), to order such person to take such other action as may be necessary, or both, or to order the Administrator to perform the act or duty referred to in paragraph (2), as the case may be, and to apply any appropriate civil penalties under section 14.

(b) **ACTIONS PROHIBITED.**—No action may be commenced under subsection (a)(1) of this section—

(1) prior to sixty days after the plaintiff has given notice of the violation to—

(A) the Administrator; and

(B) to any alleged violator of such permit, regulation, condition, requirement, prohibition, or order; or

(2) if the Administrator has commenced and is diligently prosecuting a civil or criminal action in a court of the United States to require compliance with such permit, regulation, condition, requirement, prohibition, or order.

In any action under subsection (a)(1), any person may intervene as a matter of right. Any action respecting a violation under this Act may be brought under this section only in the judicial district in which such alleged violation occurs.

(c) **NOTICE.**—No action may be commenced under paragraph (a)(2) of this section prior to sixty days after the plaintiff has given notice to the Administrator that he will commence such action. Notice under this subsection shall be given in such manner as the Administrator shall prescribe by regulation.

(d) **INTERVENTION.**—In any action under this section the Administrator, if not a party, may intervene as a matter of right.

(e) **COSTS.**—The court, in issuing any final order in any action brought pursuant to this section or section 15, may award costs of litigation (including reasonable attorneys and expert witness fees) to the prevailing or substantially prevailing party, whenever the court determines such an award is appropriate. The court may, if a temporary restraining order or preliminary injunction is sought, require the filing of a bond or equivalent security in accordance with the Federal Rules of Civil Procedure.

(f) OTHER RIGHTS PRESERVED. — Nothing in this section shall restrict any right which any person (or class of persons) may have under any statute or common law to seek enforcement of any standard or requirement or to seek any other relief (including relief against the Administrator).

SEC. 17. SEPARABILITY.

If any provision of this Act, or the application of any provision of this Act to any person or circumstance, is held invalid, the application of such provision to other persons or circumstances, and the remainder of this Act, shall not be affected thereby.

SEC. 18. RELATIONSHIP OF OTHER LAWS.

(a) Nothing in this Act shall be construed to alter or affect the authority of the Administrator under the Clean Air Act or the Toxic Substances Control Act or to affect the authority of any other department, agency, or instrumentality of the United States under any provision of law to promulgate or enforce any requirement respecting the control of any substance, practice, process, or activity for purposes of protecting the stratosphere or ozone in the stratosphere.

(b) Nothing in this Act shall preclude or deny any State or political subdivision thereof from adopting or enforcing any requirement respecting the control of any substances, practice, process, or activity for purposes of protecting the stratosphere or ozone in the stratosphere.

SEC. 19. AUTHORITY OF ADMINISTRATION.

The Administrator is authorized to prescribe such regulations as are necessary to carry out this Act.

By Mr. BOSCHWITZ (for himself, Mr. JEFFORDS, and Mr. SANFORD):

S. 492. A bill to amend the Internal Revenue Code of 1986 to provide that the amount of the earned income tax credit will be related to family size; to the Committee on Finance.

JOB ENHANCEMENT FOR FAMILIES ACT

● Mr. BOSCHWITZ. Mr. President, I rise today to reintroduce the Job Enhancement for Families Act (JEFFA), along with Senator JIM JEFFORDS and Senator TERRY SANFORD. JEFFA increases the maximum earned income tax credit (EITC) for a low-income working family with one child and adjusts the credit for family size.

During the 1960's and 1970's, Congress sought to eliminate any Federal income tax liability for families whose income fell below the poverty level. Several approaches were used in tax legislation enacted during this period, including increases in the personal exemption and standard deduction and the EITC.

Of course, the Tax Reform Act of 1986 virtually eliminates tax burdens for millions of low-income taxpayers. We increased the standard deduction to \$5,200 and the personal exemption to \$2,000 effective this year. We also increased the EITC credit percentage from 11 to 14 percent and indexed the income threshold for inflation. As a result, for a family of four, the tax threshold has been increased from the pretax reform level of \$9,575 to more than \$15,000.

In spite of all we have achieved, the current EITC has two shortcomings: It does not, in my opinion, provide

enough financial support to keep a low-income family above the poverty level, especially when one considers the added financial burden of raising more than one child. For many low-income families, the cost of providing child care so that one or both parents can work is, by itself, an insurmountable obstacle.

My bill addresses these deficiencies by increasing the maximum benefit for a family with one child to \$1,000, from the 1989 level of \$910 under current law. In addition, I propose to increase the maximum benefit in relation to family size so that a family with two children would be eligible for a \$1,500 credit; the credit for three children would be \$2,000; and for four children or more it would be \$2,500.

If enacted, these changes will meaningfully affect low-income families, where at least one parent is working. For example, using a family of three as an example, the \$2,000 credit would represent an hourly pay increase of \$1; for a family of four, the \$2,500 credit would represent an hourly pay increase equal to \$1.25. Under my bill, more welfare recipients will have an incentive to enter the work force and more parents of low-income families will be able to remain in the work force.

Mr. President, I firmly believe we must do a better job of targeting Federal assistance to those most in need. We also should avoid enacting legislation that removes incentives to work. The bill I am introducing today satisfies both of these criteria. I welcome the support and cosponsorship of my colleagues and urge the Finance Committee to consider my bill at the earliest opportunity.

Mr. President, I ask unanimous consent that my bill be printed in the RECORD.

There being no objection, the bill was ordered to be printed in the RECORD, as follows:

S. 492

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "Job Enhancement for Families Act of 1989".

SEC. 2. INCREASE IN EARNED INCOME TAX CREDIT.

(a) INCREASE IN AMOUNTS OF CREDIT. — Subsections (a) and (b) of section 32 of the Internal Revenue Code of 1986 (relating to earned income tax credit) are amended to read as follows:

"(A) ALLOWANCE OF CREDIT. —

"(1) IN GENERAL. — In the case of an eligible individual, there shall be allowed as a credit against the tax imposed by this subtitle for the taxable year an amount equal to the credit percentage of so much of the earned income for the taxable year as does not exceed \$7,143.

"(2) LIMITATION. — The amount of the credit allowable to a taxpayer under this subsection for any taxable year shall not exceed the excess (if any) of—

"(A) the credit percentage of \$7,143, over

"(B) the phaseout percentage of so much of the adjusted gross income (or, if greater, the earned income) of the taxpayer for the taxable year as exceeds \$8,000.

"(b) PERCENTAGES. — For purposes of subsection (a) —

In the case of an eligible individual with:	The credit percentage is:	The phaseout percentage is:
No or 1 qualifying child	14	22
2 qualifying children	21	13.2
3 qualifying children	28	17.6
4 or more qualifying children	35	22

(b) INFLATION ADJUSTMENTS. —

(1) Paragraph (1) of section 32(f) of such Code is amended —

(i) by striking out "the applicable calendar year" and inserting "1990";

(ii) by striking out "paragraph (2)(B)" and inserting "subsection (a)", and

(iii) by striking out "1984" in subparagraph (B) and inserting "1989".

(2) Section 32(f) of such Code is amended by striking out paragraph (2) and by redesignating paragraph (3) as paragraph (2).

(c) QUALIFYING CHILD. — Subsection (c) of section 32 of such Code is amended by adding at the end thereof the following new paragraph:

"(3) QUALIFYING CHILD. — The term 'qualifying child' means any child (within the meaning of section 151(c)(3)) of the eligible individual who is taken into account in determining such individual's eligibility for the credit allowable under this section."

(d) CONFORMING AMENDMENT. — Paragraph (2) of section 32(f) of such Code is amended by striking out "subsection (b)" each place it appears in subparagraphs (A) and (B) and inserting in lieu thereof "subsection (a)(2)".

(e) EFFECTIVE DATE. — The amendments made by this section shall apply to taxable years beginning after December 31, 1989. ●

By Mr. CRANSTON (for himself and Mr. D'AMATO):

S. 493. A bill to amend the Federal Home Loan Mortgage Corporation Act; to the Committee on Banking, Housing, and Urban Affairs.

FEDERAL HOME LOAN MORTGAGE CORPORATION TRANSITION ACT

Mr. CRANSTON. Mr. President, I introduce today the Federal Home Loan Mortgage Corporation Transition Act, which will give Freddie Mac a modern board suited to its current and future role in the Nation's mortgage finance system. I am pleased that the distinguished Senator from New York, Mr. D'AMATO, joins with me as a cosponsor.

Congress created Freddie Mac in 1970 as a federally chartered corporation that creates a continuous flow of funds to mortgage lenders in support of homeownership and rental housing.

Freddie Mac's importance to housing finance has grown dramatically in recent years. This legislation will ensure that a strong Freddie Mac will continue to provide affordable home finance for America's homebuyers.

This bill is very important to the Nation's housing.

It would provide Freddie Mac with a new 18-member board of directors, with 5 members appointed by the President and the rest elected by stockholders.

This would give Freddie Mac the same, market-oriented corporate structure as its sister corporation, the Fed-

S. 502. A bill to extend the application deadline for assistance under the Impact Aid Program; to the Committee on Labor and Human Resources.

EXTENDING THE APPLICATION DEADLINE FOR ASSISTANCE UNDER THE IMPACT AID PROGRAM

● **Mr. BAUCUS.** Mr. President, on behalf of myself and Senator BURNS, I am introducing a bill today that will allow 14 school districts across the country to receive money to which they are entitled but have been denied due to bureaucratic rules that won't budge.

These school districts, including St. Ignatius in Montana, were late in filing their applications for Federal impact aid. Their penalty for being late was a flat denial of any aid at all. The Department of Education allows no grace period for these schools—aid is simply denied if the applications are not received by January 31. No excuses, no help, no money.

My legislation extends the application deadline from January 31, 1989, to March 15 of this year. Applications received by the Department by March 15 will be considered valid and eligible for funding.

The Impact Aid Program is an entitlement—there is no competition for funding. Because of this, my bill costs the Government nothing. The money has already been appropriated and should be given to all the schools that are eligible for it.

St. Ignatius is located on the Flathead Indian Reservation and has a population of 822. Six hundred of those people are between the ages of 5 and 18. The district is eligible to receive \$400,000 in impact aid, about one-quarter of the school district budget. Without the aid, the district will probably be forced to lay off teachers, cut back on services, and the schools may risk losing their accreditation.

Today, school superintendents have their hands full in ensuring that students receive a good education within the severe budget constraints facing our schools. The St. Ignatius school superintendent is new this year and has been responsible for not only learning about his district but the many Federal rules and regulations governing education. A formidable task for anyone.

He made an honest mistake—he thought the application had to go to the State educational agency by January 31, not the Federal Government. He mailed his application by the January 31 deadline and the State agency sent it on to Washington. The Department of Education received it on February 13—9 working days after the deadline—but denied it because it was late.

Now, 600 students don't know if they'll be going to schools that are accredited. Teachers don't know if they'll have jobs and the rest of the town is wondering how the Department of Education can be so insensi-

tive to their needs. I wonder about that, too.

The per capita income of St. Ignatius is \$5,260. They can't come up with \$400,000 to keep their schools going. And they shouldn't have to. They are entitled to this money and should receive it.

We've heard a lot about a kinder and gentler Nation and the importance of education. It's time that we follow through on these ideas. I understand that the Department needs to set deadlines, but I also understand the plight of 600 children who want to go to school.

The Department of Education is in the process of reviewing these regulations and may change them in the future. But St. Ignatius can't afford to wait. I ask the Senate to consider the future of these students and extend the application deadline. We can't let the bureaucracy get in the way of education.

I ask unanimous consent that a copy to the bill be included in the RECORD.

There being no objection, the bill was ordered to be printed in the RECORD, as follows:

S. 502

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of Education shall consider as timely filed, and shall process for payment, an application from a local educational agency for fiscal year 1989 funds under section 2 or 3 of the Act entitled "An Act to provide financial assistance for local educational agencies in areas affected by Federal activities, and for other purposes", approved September 30, 1950 (20 U.S.C. 240) (hereinafter referred to as the "Act"), if such application has been certified by the State educational agency, was received by the Secretary of Education by March 15, 1989, and is otherwise in compliance with the provisions of the Act.

By Mr. BAUCUS (for himself and Mr. CHAFEE):

S. 503. A bill to protect the ozone layer by reducing chlorofluorocarbons and halons, and for other purposes; to the Committee on Environment and Public Works.

CHLOROFUOROCARBONS AND HALON REDUCTION ACT

● **Mr. BAUCUS.** Mr. President, today I am introducing legislation along with Senator CHAFEE to preserve the Earth's protective ozone shield and reduce threats to the Earth's climate.

Two chemicals, chlorofluorocarbons and halons, are largely responsible for reducing the protective ozone layer in the Earth's upper atmosphere. This legislation will ensure that manufacturers of these chemicals will quickly and smoothly develop and use safe substitutes that will not destroy our ozone layer.

Without a protective ozone layer, harmful ultraviolet radiation will reach the Earth's surface, increasing the chance of skin cancer, threatening our body's immune system and damaging the Earth's ecosystems.

In the Earth's lower atmosphere, these two chemicals are potent greenhouse gases. They account for 15 to 20 percent of all greenhouse gases worldwide, and are believed to be changing our global climate.

The danger from releasing these chemicals into the environment is getting worse with every passing day. Almost every day we learn more about the effects from halons and CFC's. We now have data linking the destruction of the ozone to these chemicals. The data suggests that it is no longer a question "if" a hole in the ozone layer exists, but how large it is.

We must prohibit the use of ozone depleting substances, before there is no more ozone to deplete. Like in baseball, three strikes and you're out. Halons and CFC's now have three strikes. The evidence is overwhelming.

In 1987, a study of the Antarctica atmosphere found that CFC's and halons caused a hole in the ozone layer over that continent. This is strike one.

Next a group of experts collected data showing that a significant loss of ozone has occurred during the winter months, not only over the polar caps, but worldwide. Strike two.

Finally last week the National Aeronautics and Space Administration [NASA] and the National Oceanic and Atmospheric Administration [NOAA] released evidence that the ozone layer is being threatened in the Arctic.

The entire Arctic stratosphere is being changed, for the worse, apparently by the presence of chlorofluorocarbons and halons.

In my opinion this is strike three.

Together, the findings over the years clearly make the case that the time for action is now.

The Montreal Protocol, a monumental agreement and system of international cooperation went into effect on January 1 of this year.

This protocol freezes worldwide production of CFC's at 1986 levels for the 31 countries that have signed the protocol.

It also reduces CFC production first by 20 percent and then by 50 percent by the year 1998.

The Montreal Protocol represents a tremendous hope for the world's environment. It is a sign that countries can cooperate to address global environmental problems.

Unfortunately, it was negotiated before we knew that CFC's were responsible for the Antarctic hole; before we knew that stratospheric ozone had been depleted worldwide; and before we knew that a hole similar to the one over the Antarctic also exists over the Arctic.

If the Montreal Protocol is implemented as it stands today, chlorine levels will continue to increase and will double by the middle of the next century. The stratospheric ozone layer could not tolerate such high levels.

We must use our latest data and move forward from the Montreal Protocol. The legislation that we are introducing today is meant to do just that.

The Chlorofluorocarbon and Halon Reduction Act establishes a freeze on the production of ozone depleting substances.

The bill sets a fee on each pound of CFC or halon produced, based upon its ozone depleting potential. The fee should eliminate any incentives to continue producing these substances while they are being controlled and reduced.

The fee is set at 25 cents per pound and is increased until it reaches \$2.50 per pound in 1994. The revenue will be transferred from the producers of CFC's and halons to the U.S. Treasury.

The bill also sets up an ozone layer and climate protection trust fund to provide grants to producers and users of ozone depleting substances to develop safe substitutes.

Today, I am also joining Senator CHAFEE in introducing legislation to phase-out the use of CFC's, and halons. The evidence clearly supports the need to cut the production of these substances by more than 50 percent, the amount specified in the Montreal Protocol.

Finally, in the near future, I will introduce comprehensive legislation addressing all ozone depleting substances and greenhouse gases.

This legislation, together with the bills we are introducing today, will provide EPA with all the tools necessary to protect our global environment from ozone depleting substances and greenhouse gases.

Mr. President, I ask unanimous consent that the bill and a section-by-section analysis of the bill be printed in the Record and that the executive summary of the findings of the Airborne Arctic Stratospheric Expedition be printed in the Record.

There being no objection, the material was ordered to be printed in the Record, as follows:

S. 503

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SHORT TITLE

SECTION 1. This Act may be cited as the "Chlorofluorocarbons and Halon Reduction Act of 1989".

FINDINGS

SEC. 2. The Congress finds that—

(1) restrictions on the production of chlorofluorocarbons (CFCs) and halons are essential to safeguarding the earth's ozone layer, reducing the greenhouse effect, and protecting human health and the environment;

(2) restrictions on chlorofluorocarbons and halon production, as required under the Montreal Protocol on Substances that Deplete the Ozone Layer and by Environmental Protection Agency regulations, will restrict the supply and therefore increase the price of these chemicals, and that increased prices provide a greater economic incentive

for firms using these chemicals to increase recycling, while also providing an incentive for the introduction of chlorofluorocarbons and halon substitute chemicals;

(3) future revenues from higher chlorofluorocarbons and halon prices, resulting from regulatory restrictions to protect human health and the environment, should be used for the benefit of the public. As such, some portion of these revenues should be made available in an equitable manner to facilitate and expedite the shift away from the harmful chlorofluorocarbons and halons by chlorofluorocarbons and halon producer and user firms;

(4) because of the worldwide recognition of the need to move away from using ozone-depleting chemicals, strong international competition now exists to develop chemical substitutes and to produce chlorofluorocarbons- and halon-free products including refrigerators, electronic components, various foams, and automobile and commercial air conditioners. United States chemical producers and chlorofluorocarbons and halon user industries should be encouraged to successfully participate in this competition by developing improved chemicals and products that do not rely on chlorofluorocarbons and halons; and

(5) special emphasis should be placed on developing new chlorofluorocarbons- and halon-free products and technologies with improved energy efficiency as a means of protecting the ozone layer and contributing to reductions in global warming.

OBJECTIVES AND NATIONAL GOAL

SEC. 3. (a) The objective of this Act is to provide for a smooth transition away from the use of ozone-depleting chemicals in order to protect the earth's ozone layer and to limit global warming.

(b) In order to achieve that objective, the national goal is to provide for an orderly and equitable shift to alternative chemicals and products and to facilitate the competitiveness of United States industry at home and abroad.

DEFINITIONS

SEC. 4. As used in this Act, the term—

(1) "Administrator" means the Administrator of the Environmental Protection Agency;

(2) "assessment year" means the 12-month period as set forth in section 6(a) or as hereafter modified pursuant to this Act; and

(3) "ozone-depleting chemicals" refers to those chemicals listed in section 5(a) as may be modified by section 5(b).

(4) "Secretary" means the Secretary of the Treasury.

IMPOSITION OF PRODUCTION AND IMPORTATION CHARGE ON OZONE-DEPLETING CHEMICALS

SEC. 5. (a)(1) Within 60 days following the date of the enactment of this Act, the Administrator shall issue such regulations as may be necessary, commencing with the effective date provided by the following table, to impose an ozone-protection charge on producers and importers of the following chemicals:

Ozone-Depleting Chemical	Effective Date
Trichlorofluoromethane (CFC-11).	July 1, 1989;
Dichlorodifluoromethane (CFC-12).	July 1, 1989;
Trichlorotrifluoroethane (CFC-113).	July 1, 1989;
Dichlorotetrafluoroethane (CFC-114).	July 1, 1989;
(Mono) chloropentafluoroethane (CFC-115).	July 1, 1989;
Bromochlorodifluoroethane (Halon 1211).	January 1, 1992;

Ozone-Depleting Chemical	Effective Date
Bromotrifluoroethane (Halon 1301).	January 1, 1992; and
Dibromotetrafluoroethane (Halon 2402).	January 1, 1992.

(1) Within 60 days following the date of enactment of this Act, the Secretary shall issue such regulations to collect the production clause.

(b) The Administrator shall promulgate regulations adding to the list of ozone-depleting chemicals referred in to subsection (a), chemicals which are known or can reasonably be anticipated to cause or contribute to stratospheric ozone depletion and whose production and importation he determines should be limited to protect public health and the environment. The Administrator shall also promulgate changes to the effective dates in subsection (a) if such changes are necessary to protect public health and the environment and are in furtherance of the goal and objective of this Act set forth in section 3.

(c) In promulgating such regulations, the Administrator shall take such action as may be necessary to assure that no production or importation charge shall be imposed on any such chemicals that are used and entirely consumed in the production of other chemicals.

SETTING THE AMOUNT OF THE CHARGE

SEC. 6. (a)(1) For each assessment year, the production charge shall be estimated using the procedures set forth in this section. The production charge for each assessment period will be the greater of the amounts calculated under this subsection or subsection (b).

(2) The amount of the production charge shall be calculated on the basis of the following schedule:

(A) Chlorofluorocarbons—

Assessment Period	Amount of Base Charge
July 1, 1989 to Sept. 30, 1989.	\$25/pound
Oct. 1, 1989 to Sept. 30, 1990.	\$50/pound
Oct. 1, 1990 to Sept. 30, 1991.	\$1.00/pound
Oct. 1, 1991 to Sept. 30, 1992.	\$1.50/pound
Oct. 1, 1992 to Sept. 30, 1993.	\$2.00/pound
Oct. 1, 1993 to Sept. 30, 1994.	\$2.50/pound
and for every 12 month period thereafter	\$2.50/pound.

(B) Halons—

Assessment Period	Amount of Base Charge
Jan. 1, 1992 to Sept. 30, 1992.	\$1.50/pound
Oct. 1, 1992 to Sept. 30, 1993.	\$1.50/pound
and for every twelve month period thereafter	\$1.50/pound.

(3) The Administrator shall promulgate regulations modifying the assessment periods consistent with any changes to the effective dates adopted under section 5(b).

(4) The Administrator shall promulgate regulations modifying the amount of the base charge to reflect future changes in the expected price and availability of substitutes and alternative technologies to ozone-depleting chemicals.

(5) The base charge shall be assessed against each pound (or portion thereof) of ozone-depleting chemical produced or imported multiplied by that chemical's ozone-depletion factor. The ozone-depletion factors for the covered chemicals are the following:

Ozone-Depleting Chemical	Ozone Depletion Factor
CFC-11	1.0
CFC-12	1.0
CFC-113	0.8
CFC-114	1.0
CFC-115	0.6
Halon 1211	3.0
Halon 1301	10.0
Halon 2402	8.0

(b)(1) The Administrator shall promulgate regulations modifying the factors or adding to the list in subsection (a) consistent with actions under section 5(b).

(2) The charge shall be based on the calculated increase in revenues that result from the restrictions on the ozone-depleting chemicals in an assessment period. The charge shall be calculated by the Administrator as the total revenues from the sale of the ozone-depleting chemicals minus the estimated costs of production and reasonable rate of return.

(3) Total revenues shall be determined by the Administrator based on reports required by the Administrator, by regulation, from each firm producing ozone-depletion chemicals for that assessment year. The reports shall include the total revenues from sales of ozone-depleting chemicals broken down by chemical. The reports shall be received by the Administrator within 30 days of the end of an assessment period.

(4) Costs of production and reasonable rate of return shall be calculated by the Administrator as the 1986 weighted average price calculated separately for chlorofluorocarbons and for halons. To reflect future changes in production costs, the 1986 estimated weighted average price shall be multiplied each year by the producer price index for basic inorganic chemicals (published by the Department of Labor) for the period covered by that assessment year.

(5) Regulations by the Administrator shall permit individual companies to petition the Administrator with documentation showing that their production costs have increased more than the industry average. The Administrator shall modify the application of the calculation of production costs if a valid showing is made.

(6) The charge for importing ozone-depleting chemicals identified in section 5(a) shall be the same charge as calculated for the production of those same chemicals in the applicable assessment period. The charge shall be assessed against the importer of record as listed on United States Customs Service Form 7501.

(7) The Administrator shall notify producers and importers of the amount of their totaled assessed charge within 60 days of the end of the assessment period. Firms have within 30 days of the date of receipt of their assessment to submit full payment to the Secretary.

(8) Firms exporting ozone-depleting substances shall apply to the Administrator for refunds for the calculated charge for the quantity of ozone-depleting chemicals that they exported in each assessment period. Applications for refunds must be submitted to the Administrator for approval within 30 days of the end of the applicable assessment period. The Administrator shall review the request for a refund and notify both the requestor and the Treasury within 60 days of its approval of such requests. Approved requests for refunds shall be paid by the Secretary.

SUPPORT FOR RESEARCH RELATED TO TECHNOLOGICAL ALTERNATIVES TO OZONE-DEPLETING CHEMICALS

Sec. 7. (a) All moneys received by the Secretary pursuant to this Act for any assessment year, up to \$100 million, shall be de-

posited in the Ozone Layer and Climate Protection Trust Fund established by section 10 of this Act. All moneys so received in any assessment year in addition to such \$100 million shall be deposited in the Treasury of the United States as miscellaneous receipts.

(b)(1) Moneys in the Trust Fund shall be available for research grants as follows:

(A) 30 percent to support research related to substitutes for ozone-depleting chemicals by chemical producers; and

(B) 70 percent to support research into alternative products that are produced without ozone-depleting chemicals covered by this Act.

(2) The research referred to in paragraph (1) shall include testing the basic properties of chemical substitutes; testing the applicability of possible substitutes in specific products; examining health, environmental, and safety issues related to the use of possible chemical substitutes; improving the energy efficiency of alternative technologies; monitoring environmental impacts; and other related purposes.

ADVISORY COMMITTEE

Sec. 8. (a) The Administrator shall establish an advisory committee to advise him in connection with research to be carried out pursuant to this Act. Such committee shall be comprised of individuals who are representatives of chlorofluorocarbons and halon producers and users, the Department of Defense (designated by and with the approval of the Secretary of Defense), the Department of Commerce (designated by and with the approval of the Secretary of Commerce), and public interest groups. Members of the Committee will serve without additional pay as such.

(b) It shall be the function of the advisory committee, at the request of the Administrator, to advise and make recommendations to the Administrator as to research to be carried out pursuant to this Act, and the making of grants to carry out such research.

(c) In carrying out its function, the advisory committee shall consider, among other things, the quantities of ozone-depleting chemicals the proposed technology would replace; the timing of possible reductions with preference given to near-term technologies; the effect of global climate change; the likelihood of commercialization of the technology; the degree of public and private participation and support for a proposed project; the extent to which the research results of the project will be accessible to the public; and the energy efficiency that would result from the project.

GRANTS

Sec. 9. (a) The Administrator is authorized to establish and carry out a grant program for the purpose of carrying out research authorized by this Act. Grants made under such program may be made to public and private entities, or combinations thereof, including consortia established expressly for the purpose of conducting research pursuant to this Act.

(b) Applications for grants under this Act shall be submitted as such time and in such form and contain such information as the Administrator shall prescribe by regulation.

TRUST FUND

Sec. 10. (a) There is established in the Treasury of the United States a trust fund to be known as the "Ozone Layer and Climate Protection Trust Fund" (referred to in this Act as the "Trust Fund"). The Trust Fund shall consist of such amounts as may be deposited in it as provided in this Act.

(b) Amounts in the Trust Fund shall be available, as provided by appropriation Acts, to carry out the grant program under this Act.

(c) It shall be the duty of the Secretary of the Treasury to report to the Congress each year on the financial condition and the results of the operation of the Trust Fund during the preceding fiscal year and on its expected condition and operations during the next 5 fiscal years.

(f)(1) It shall be the duty of the Secretary of the Treasury to invest such portion of the Trust Fund as is not, in his judgment, required to meet current withdrawals. Such investments may be made only in interest-bearing obligations of the United States. For such purpose, such obligations may be acquired—

(A) as original issue at the issue price, or

(B) by purchase of outstanding obligations at the market price.

(2) Any obligation acquired by such Trust Funds may be sold by the Secretary of the Treasury at market price. The interest on, and the proceeds from the sale or redemption of, such obligation held in such Trust Fund shall be credited to and become a part of the Trust Fund.

AUTHORIZATIONS

Sec. 11. There are authorized to be appropriated from the Ozone Layer and Climate Protection Trust Fund such amounts as may be necessary to carry out the grant program under this Act.

SECTION-BY-SECTION ANALYSIS—CFC AND HALON REDUCTION ACT OF 1989

Section 1: Short title.

Section 2. Congressional Findings. Includes findings that action to restrict chlorofluorocarbons (CFCs) and halons have recently been initiated through an international agreement (the Montreal Protocol) and carried out domestically by regulations adopted by EPA. By restricting the production of CFCs and halons, these regulations should increase the price of these chemicals. Higher CFC and halon prices serve the useful purpose of providing a strong economic incentive for increased recycling, while also creating a market for higher priced substitute chemicals and products.

EPA estimates that increased prices will generate several billion dollars in revenues over the next decade. Under the current EPA regulations, these revenues would accrue primarily to a small number of EPA and halon producers. The findings state that, instead of benefiting these few companies, this revenue should benefit the general public and that some portion of it should be made available on a more equitable basis to both CFC and halon producer and user firms to facilitate the transition away from the use of ozone-depleting chemicals.

The findings also note the widespread acceptance that CFCs and halons must be restricted, has lead to intense international competition to develop CFC- and halon-free technologies in such product areas as refrigeration, solvents, commercial and auto air conditioning and various foams. The firms that develop and bring such products to market will have an excellent opportunity to expand their domestic and international sales. Other nations are providing targeted support to assist their industries in making this transition. The findings suggest that some portion of the revenue that results from CFC and halon restrictions should be channelled back to United States chemical producers and user firms to aid them in their efforts to develop and bring to market alternative technologies.

The findings also note that special emphasis should be placed on developing alternative technologies that both are CFC and halon-free and which increase energy conservation. This final consideration is neces-

sary to avoid shifting in the near term to technologies which could add to energy demand and therefore contribute to global warming. Such shifts could result in the need for costly, longer-term shifts to still different technologies to address concerns of global warming.

Section 3. Objectives and National Goal. Establishes as the objectives to provide for a smooth transition away from the use of ozone-depleting chemicals by facilitating the shift by United States producer and user industries to alternative chemicals and products for both domestic and international markets.

Section 4. Definitions. Specifies that the chemicals covered by and the timing of the charge are fully consistent with the Montreal Protocol and EPA's current regulation.

Section 5. Imposition of Production and Importation Charges. Specifies that the CFC and halon production charge shall be based on either a set fee schedule included in the Act or on the actual price increases, whichever is greater. The set fee schedule is based on a smooth transition to more costly CFC substitutes. It assumes that CFC substitutes will become commercially available by 1994 and will cost less than \$2.50/pound more than current CFC prices. This method of setting the charge is fully consistent with anticipated pricing behavior by CFC producers under the current EPA regulation.

The alternative method would be used if CFC price increases were greater than anticipated under the first method. Under this approach, the total revenues from CFC and halon sales as determined by the market prices charged by the producers would be reported to EPA. The EPA Administrator would estimate changes in production costs based on 1986 base year prices increased by a producer price index to reflect inflation. This estimate would also ensure that producers maintained the same rate of return they received in 1986. For a given assessment period, the charge would be the difference between the actual total revenues from the sale of CFC and halons minus the adjusted production costs.

The import charges would be based on the average production charge for the same assessment period and would therefore remove any economic incentive for imports over domestic production. Charges on exports of the regulated chemicals would be refunded to avoid penalizing U.S. competitiveness abroad.

Section 7. Support for Research Related to Technological Alternatives to Ozone-Depleting Chemicals.

It sets forth a process and criteria for making some of the revenues collected by the charge available to CFC and halon producers and user industries to assist them in the transition way from these chemicals. It establishes an Ozone Layer and Climate Protection Fund in the Treasury and an advisory committee chaired by EPA and consisting of representatives of all the key industry sectors and government agencies to assist in determining the distribution of funds.

It authorizes up to [\$75-100] million annually for five years and specifies that no more than (30-50) percent shall be made available to firms for the purposes of research into the development or production of chemical substitutes with the remainder targeted for user industries.

The section also describes that the funds are to be used for the purposes of research related to testing the basic properties and user applicability of proposed alternatives and for evaluating issues related to health, environment, and safety impacts. It establishes a number of criteria for distributing funds including: the quantity of CFCs and

halons likely to increase energy efficiency; the degree of and support public and private participation; and the extent to which findings will be made available to the public. It is likely that many of these projects will build on existing joint research efforts that have been recently initiated in several sectors of the CFC and halon production and user industries. ●

By Mr. GRAHAM (for himself, Mr. KERRY, Mr. McCAIN, Mr. DURENBERGER, and Mr. SANFORD):

S. 504. A bill to improve the operation of the Caribbean Basin Economic Recovery Act, and for other purposes; to the Committee on Finance.

CARIBBEAN BASIN ECONOMIC RECOVERY ACT AMENDMENTS

● Mr. GRAHAM. Mr. President, I am pleased to introduce today, along with my distinguished colleagues Senators KERRY, McCAIN, DURENBERGER, and SANFORD, legislation which will improve the Caribbean Basin Initiative which the Congress originally approved in 1983.

Our reasons for improving the CBI are twofold and related. First, a broad range of U.S. national security interests is being directly threatened by continuing economic deterioration in Central America and the Caribbean.

Nowhere can this be seen more clearly than in the massive flow of narcotics into this country. Traffickers are having a field-day feeding on the economic despair that grips the region.

Second, the CBI works. An already deteriorating economic situation would have been worse without the CBI. A number of studies, including two by the International Trade Commission, prove that.

This legislation would make an already successful program even more effective by providing expanded duty-free access for CBI exports into the U.S. market.

In doing so, we have made every effort to protect the legitimate interests of U.S. industry. Indeed, this bill reflects in depth consultation with both domestic industry and governments in the region.

The result strengthens the CBI Program, while striking an appropriate balance between the needs of our democratic allies and our own domestic economic interests.

Although the CBI is by no means the sole resolution to the many complex problems facing the region, it is logically a necessary component of any comprehensive policy. We must revitalize economic growth in the basin so that our democratic friends can earn their way back to economic health.

Part of that process is the importance of long term assurances for investors. Permanent economic health in the Caribbean Basin must be a United States objective that transcends the temporal limits of administrations and congressional sessions.

This legislation, in effect, makes the considerations in the Caribbean Basin Initiative permanent, subject to periodic review for effectiveness. It underlines our serious commitment to the goal of a prosperous and peaceful hemisphere.

We also extend a sensitivity to the unique nature of the small economies involved in the CBI by separating their exports from large-scale trade violations cases—separate injury cumulation determination. That makes sense and is the only fair way to judge those cases.

Yesterday, I spoke in support of renewing humanitarian aid for the Nicaraguan resistance. The ultimate aim of that gesture is to ensure that the peace process is strongly influenced to its full evolution in Central America—in the Caribbean nations there—by eliminating the extreme political dissension which subverts economic growth in the region. Democracy is a crucial component of stable economic progress and when we encourage one—we enhance the other.

Clearly we need a comprehensive, long range, pragmatic strategy for the hemisphere which paints the Caribbean Basin as a vigorous and enthusiastic partner in hemispheric progress. I think improving the CBI helps us to accomplish that goal. ●

Mr. DURENBERGER. Mr. President, I rise today as an original cosponsor of S. 504, the Caribbean Basin Economic Recovery Act of 1989. I want to express my appreciation to Senator GRAHAM for his hard work on behalf of our hemispheric allies. I am honored to join him and my colleagues—Senators KERRY, McCAIN, and SANFORD—in support of "CBI II."

I supported the original CBI legislation in 1983 because I believed it was an important step toward long-term economic growth in the Caribbean Basin. The 1983 bill granted duty-free status to many products for 12 years, contained tax incentives for investment and tourism, and provided guaranteed access levels for textile exports. However, no single piece of legislation could be expected to overcome the effects of oil price increases, the foreign debt burden or a host of other obstacles to development.

The reality is that CBI has worked well; although it has not revitalized the Caribbean economies, it has prevented a poor economic situation from becoming worse. Our democratic neighbors have a long way to go on the road to sustainable economic development. But CBI has provided valuable assistance on this road.

The benefits of CBI I are tangible: More than 600 investment projects have begun; more than \$1.6 billion has been invested; 95,000 new full-time jobs, and 21,000 part-time jobs have been created; and nontraditional exports—the key to economic diversification—have registered major increases since 1983.

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101ST CONGRESS
1ST SESSION

S. 871

To institute a manufacturers' excise tax on certain ozone-depleting chemicals; to partially direct revenues from such excise tax toward an Ozone Layer Conservation Trust Fund for developing chemical and technological alternatives to ozone-depleting chemicals; and for other purposes.

IN THE SENATE OF THE UNITED STATES

MAY 1 (legislative day, JANUARY 3), 1989

Mr. GORE introduced the following bill; which was read twice and referred to the Committee on Finance

A BILL

To institute a manufacturers' excise tax on certain ozone-depleting chemicals; to partially direct revenues from such excise tax toward an Ozone Layer Conservation Trust Fund for developing chemical and technological alternatives to ozone-depleting chemicals; and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 SECTION 1. SHORT TITLE.

4 This Act may be cited as the "Ozone Layer Conserva-
5 tion Act of 1989".

Remarks of
SENATOR AL GORE
Hearing on Pending CFC Legislation
Subcommittee on Environmental Protection
Committee on Environment and Public Works

May 19, 1989

Mr. Chairman, I would like to thank you for holding these hearings on what we can all agree is one of the most urgent aspects of the global environmental crisis that our planet is facing: depletion of the stratospheric ozone layer by manmade chemicals.

Most of the world's governments are moving with remarkable speed toward ending production of these chemicals, which have been shown to be responsible not only for depleting the Earth's protective ozone layer, but also for causing up to 20% of the greenhouse effect. The Montreal Protocol, a landmark international agreement to protect the global environment, went into effect at the beginning of the year.

But soon afterward, in hearings before my subcommittee, we heard from an international scientific team that the Arctic atmosphere was primed with manmade chemicals that would cause ozone depletion in a manner analogous to those that caused a hole in the stratosphere over Antarctica. Soon thereafter, in March, I was a member of the U.S. delegation to Prime Minister Thatcher's conference on "Saving the Ozone Layer." There, the nations of the world joined to call for a faster phaseout of ozone-destroying chemicals than that specified by the Montreal Protocol, a phaseout by the end of the century. In Helsinki, the parties to the Montreal Protocol continued along those lines of discussion -- talks that should lead to the faster phaseout schedule.

But the evidence of the danger that these chemicals pose to the world's environment continues to mount, and each time, we are forced to go back to the drawing board, to tighten restrictions, to hasten the phaseout schedule. Mr. Chairman, I believe that the evidence points clearly toward the need to reduce -- and eventually halt -- emissions of these chemicals as rapidly as possible.

I have introduced three bills to protect the stratospheric ozone layer. The first, the "Consumer Ozone Protection Act," has been referred to the Commerce Committee. It would label,

regulate, and -- in some cases -- eliminate the sale of certain consumer products that contain manmade substances that have been shown to deplete the stratospheric ozone layer. It regulates the servicing of auto air conditioners, and calls for the development of a Chlorofluorocarbon and Halon Reclamation Plan for the purpose of encouraging recapture and recycling of ozone-depleting substances.

The second bill, the "Ozone Layer Conservation Act," is in the Finance Committee, and calls for a manufacturers' excise tax on certain chemicals that deplete the stratospheric ozone layer. This same measure has been introduced in the House of Representatives by Mr. Stark, and has 59 co-sponsors there. In addition, my bill establishes an Ozone Layer Conservation Trust Fund in the Treasury Department, and directs half of the revenues from the excise tax into the Trust Fund for the purpose of promoting research, development, and market incentives for technological alternatives to ozone-depleting chemicals. The bill calls on the EPA and the DOE to develop a strategic plan for disbursing revenues held in the Trust Fund in order to achieve these objectives, and specifies the use of market incentives that are modeled on previous federal efforts to stimulate growth of new industries.

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The third bill, the "Upper Ozone Chemicals Act," has been referred to this Committee. It calls for a five-year phaseout of six substances that deplete the ozone layer (CFC-11, CFC-12, CFC-113, halon-1211, halon-1301, and carbon tetrachloride), and a ten-year phaseout of other, less damaging chemicals. There are exceptions for medical and national security reasons. In addition, the bill has provisions for certifying that nations from which we import products that contain ozone-depleting chemicals have a similar phaseout program in place, and a requirement for safe disposal of ozone-depleting chemicals. Finally, the bill calls for developing a safe alternatives policy, for replacing the substances to be phased out with chemicals, product substitutes, or alternative manufacturing processes that reduce overall risks to public health and the environment.

There will be some who claim that the five-year phaseout of the six most harmful ozone-depleting chemicals is too soon. But Mr. Chairman, I do not agree. I believe that the threat to the earth's ozone shield is too serious for complacency. And I believe that the rapid phaseout of these six chemicals will stimulate the development of alternative substances and technologies. We became aware that manmade chemicals depleted the stratospheric ozone layer over a decade ago. Rather than find alternatives, however, industry chose to ignore the problem.

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Except for a federally mandated ban on uses in spray cans, the response was one of business-as-usual.

A more rapid phaseout of these six ozone-destroying chemicals will not only protect the environment for ourselves and our children, it will also speed the development of new, post-CFC technologies.

And these technologies, in turn, will benefit not only the environment, but the U.S. trade balance as well. Obsolete, chlorofluorocarbon-based refrigerators are being purchased by Third World consumers as we speak. In the capital-poor developing world, this equipment will not be replaced for decades, and will require additional chlorofluorocarbons to replace those lost during their service lifetimes. Some of these countries, like China, are not parties to the Montreal Protocol. The problem that we are addressing with the legislation that will be discussed today will be made much worse by the introduction of these CFC-based technologies to yet other areas of the world. The U.S. is in a position to lead the world to post-CFC technologies, and our economy will benefit enormously from that effort.

The imperative is to preserve the future of our children, and of generations to follow. It is a moral

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imperative. Although Congress is recognizing the challenge of this and other components of the global environmental crisis, there remains a critical need for President Bush to show that as a nation, we have the vision and the courage to act responsibly. We must also transform our behavior. The solutions we seek will be found in a new faith in the future of life on earth after our own, a faith in the future which justifies sacrifices in the present, and a new moral courage to choose higher values in the conduct of human affairs.

Thank you again, Mr. Chairman. I commend the Subcommittee for its pioneering work.

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**SIDE-BY-SIDE COMPARISON OF PROVISIONS CONTAINED IN S. 870,
S. 871, and S. 872, TO COMPARABLE PROVISIONS IN S. 333,
S.491, AND S.503**

The following is a comparison of the major provisions contained in S. 870, S. 871, and S. 872, to comparable provisions contained in S. 333, S. 491, and S. 503.

1. Comparison of S. 870 to S. 333, S. 491, and S.503.

MOBILE AIR-CONDITIONERS

S. 870 regulates auto air conditioner servicing, to ensure that chlorofluorocarbons (CFCs) are recaptured and recycled, and not unnecessarily vented to the atmosphere. About 30% of U.S. emissions of CFC-12 originate from auto air conditioners, and about three-quarters of those emissions occur during maintenance and recharging. S. 870 also eliminates the sale of CFC-containing air conditioner recharge cannisters smaller than 30 pounds, thus effectively limiting the sale of CFC-containing air conditioner fluid to bulk purchasers (i.e., servicers) only. Finally, S. 870 requires that servicers recharging auto air conditioners with CFC-containing fluids first test the system for leaks, and repair those leaks ~~and repair~~ *before recharging.*

S. 333, S. 491, and S. 503 do not have comparable provisions targeted specifically ^{at} to mobile air-conditioners and eliminating the sale of recharge cannisters smaller than thirty pounds, but both S. 333 and S. 491 have general provisions that might have applications in this area.

(S. 872 contains similar general provisions.)

FIRE EXTINGUISHERS FOR CONSUMER APPLICATIONS

S. 870 bans the sale and distribution of fire extinguishers ~~for routine consumer applications~~ containing halons or other ozone-depleting substances, ~~unless required by federal law. This removes from the market a major source of releases to the atmosphere of halons.~~

except in cases where such fire extinguishers are

S. 333, S. 491, and S. 503 do not have comparable provisions targeted specifically at eliminating the sale of fire extinguishers for consumer applications, but both S.

halon-containing

333 and S. 491 have ^{more} general provisions that could indirectly affect those products. (S. 872 ---)

NONESSENTIAL CONSUMER PRODUCTS CONTAINING CHLOROFLUOROCARBONS

S. 870 bans the sale and distribution of non-essential consumer products that are capable of releasing ozone-depleting substances into the atmosphere. These products include chlorofluorocarbon-containing plastic party streamers and noise horns, chlorofluorocarbon-containing cleaning fluids for electronic and photographic equipment, and others.

S. 333, S. 491, and S. 503 do not have comparable provisions.

LABELING REQUIREMENTS

S. 870 requires the labeling of consumer products that contain, are produced with, or are produced from an ozone-depleting substance. These labels would warn the purchaser that the product's contents or manufacturing process pose a danger to the stratospheric ozone layer, and that depletion of the ozone layer could lead to increased risk of skin cancer and damage to natural systems, including food production.

The labeling provisions in S. 333 and S. 491 are similar. S. 503 has no similar provision.

CHLOROFLUOROCARBON AND HALON RECLAMATION PLAN

found
S. 870 requires the Secretary of Commerce to issue a plan ~~to provide~~ ^{means} for the most effective way of ensuring widespread reclamation, recycling, or regulated disposal of ozone-depleting substances, ~~and requires that all consumer products containing an ozone-depleting substance~~ ^{in bulk} to have an aperture that allows such substances to be ~~removed~~ ^{recaptured} without release to the atmosphere.

S. 491 requires the Administrator of the Environmental Protection agency to promulgate regulations establishing standards for the recapture, recycling, and safe disposal of ozone-depleting substances, ~~these regulations must mandate, among other things, that goods containing an ozone-depleting substance in bulk be equipped with a servicing aperture that will allow recapture of the substance without release to the environment.~~

S. 333 and S. 503 contain no comparable provisions.
(S.333 has aperture provision...please note here) *****

2. Comparison of S. 871 to S. 503.

MANUFACTURERS' EXCISE TAX ON CHEMICALS THAT DEplete THE OZONE LAYER

S. 871 amends the Internal Revenue Code of 1986 to impose a manufacturers' excise tax on certain chemicals that deplete the stratospheric ozone layer. The amount of the tax is adjusted for each chemical, depending on the chemical's potential for depleting stratospheric ozone.

The tax imposed by S. 871 can be passed on to ~~CFC~~ ^{the chemicals} consumers, raising the price of ~~CFCs~~; thus, market forces are used to decrease the demand for the more dangerous chemicals. The increased price due to the tax effectively "internalizes" the environmental costs into the costs of the product (similar to the logic of those who would call for a carbon dioxide tax to reduce greenhouse gas emissions). If the price is not raised, no incentive is provided for consumers to demand the less dangerous chemicals. The higher price also makes the environmentally safer substitutes more economically competitive with ~~the~~ ^{some} traditionally very-low-cost ~~CFCs~~, and will eventually provide users with the incentive to recapture and recycle the most dangerous ozone-depleting chemicals. ^{Purchasers of ozone-depleting chemicals,}

The tax does not provide for adjustment to capture windfall profits. Companies are expected to use these profits to finance research and development alternatives. Because their product is being phased out, they ~~will need~~ those revenues to finance a substantial research and development effort. ^{ozone-depleting chemicals of}

S. 503 imposes a charge ^{fee} on the production and importation of ozone-depleting chemicals. An ozone depletion potential is assigned to each of the substances, and a fee is set on each ^{unit} ~~pound~~ of ~~CFC or halon~~ ^{chemical} produced. ^{Companies should require}

The fee imposed by S. 503 is to be absorbed by the ~~CFC~~ ^{chemical} manufacturers, keeping the price of ~~CFCs~~ stable. The fee is adjustable, to capture any windfall profits that ~~CFC~~ producers realize as supplies drop during the phaseout and thus prevent the ~~CFC~~ manufacturers from inflating the price of ~~CFCs~~. ^{periodically}

^{the chemicals being phased out}

^{ozone-depleting chemicals}

OZONE LAYER CONSERVATION TRUST FUND

S. 871 provides ^{for putting} ~~that~~ one-half of the revenues from the manufacturers' excise tax ~~are put~~ into an ozone layer conservation trust fund. This would equal \$200 million in the first year, rising to \$XXX billion in the fifth year; the remainder of revenues from the manufacturers' ~~excise tax~~ ^C would go to the Treasury. Expenditures from the Trust Fund would provide for government-industry cooperation in research, development, and market incentives for non-ozone-depleting chemical and technological alternatives to ozone-depleting substances. In addition, the federal government would investigate the means by which it might assist United States manufacturers of such technological alternatives in exporting the alternatives for applications in developing and developed countries. S. 871 also incorporates several provisions modeled on past government-industry cooperative efforts to build ~~new industry~~ ^{ies}, such as block federal purchases of new technology meeting specified performance standards.

S. 503 provides that up to \$100 million of the fee revenues are put into a trust fund annually to provide grants to producers and users to develop substitutes and alternatives to products now manufactured by ~~the~~ chemicals, with the rest going to the Treasury. S. 503 does not provide for the creation of markets for alternative technologies, but instead focuses on providing funding for research. Thirty percent of the trust funds are dedicated to funding research into substitutes for ozone-depleting chemicals, and ~~70%~~ ^{70%} to support research into alternative products that are produced without ozone-depleting chemicals. Ozone-depleting

By putting the fee and tax revenues into a trust fund, both S. 871 and S. 503 ensure that a portion of the ~~monies~~ ^{Funds} ~~generated by~~ the sale of ozone-depleting substances are used to support efforts for finding alternatives to technologies based on these substances. collected from

3. Comparison of S. 872 to S. 333 and S. 491.

LISTING OF REGULATED SUBSTANCES

S. 872 requires the Administrator of the Environmental Protection Agency to publish lists of manufactured substances that are known or may reasonably be anticipated to cause or contribute to ozone depletion in the upper atmosphere. S. 333 and S. 491 have similar provisions, with some differences in the particular compounds to be

included on each list. Following is a summary of these differences:

LIST OF REGULATED SUBSTANCES:

<u>Compound</u>	<u>S. 872</u>	<u>S. 333</u>	<u>S. 491</u>
CFC-11	yes	yes	yes
CFC-12	yes	yes	yes
CFC-22	yes	yes	yes
CFC-113	yes	yes	yes
CFC-114	no	no	yes
CFC-115	no	no	yes
CFC-123	no	no	yes
CFC-124	no	no	yes
CFC-141	no	no	yes
CFC-142	no	no	yes
methyl chloroform	no	no	yes
methylene chloride	yes	yes	yes
carbon tetrachloride	yes	no	no
halon 1211	yes	yes	yes
halon-1301	yes	yes	yes
halon-2402	no	no	yes

~~At~~ S. 872, S. 333, and S. 491 require the Administrator of the Environmental Protection Agency to assign an ozone depletion factor to each listed substance. The ODF is a numerical value representing the ozone depletion potential of each manufactured substance, on a mass basis, as compared to CFC-11.

ozone depletion factor

PRODUCTION PHASEOUT

S. 872, S. 333, and S. 491 all require the phase-out of the production of ozone-depleting substances, but differ in the schedule for the phase-out and the compounds to be eliminated. Following is a summary of the compounds to be phased out and the schedule for doing so for each bill:

<u>Compound</u>	<u>S. 871</u>	<u>S. 491</u>	<u>S. 333</u>
CFC-11	w/in 5 yr	1997	1996
CFC-12	5 yr	1997	1996
CFC-22	10 yr	n/a	2000
CFC-113	5 yr	1997	1996
CFC-114	10 yr	1997	2000
CFC-115	10 yr	1997	2000
CFC-123	yr		
CFC-124	yr		

CFC-141	yr		
CFC-142	yr		
methyl chloroform	10 yr	1997	2000
methylene chloride	10 yr	n/a	2000
carbon tetrachloride	5 yr	n/a	2000
halon 1211	5 yr	1997	1996
halon-1301	5 yr	1997	1996
halon-2402	n/a	1997	n/a

S. 872 and S. 333 both require the eventual phase-out of all ozone-depleting substances, while S. 491 only requires the elimination of those substances specified on the list.

REPORTING REQUIREMENTS,

~~S. 872, S. 491, and S. 333 require manufacturers of ozone-~~
~~a S. 872, S. 491, and S. 333 require manufacturers of~~
 ozone-depleting substances to report the amount of these
 substances produced during the previous 12-month period.

LIMITATION ON USE

S. 872, S. 333, and S. 491 each limit the use and sale
 of ozone-depleting substances. ~~S. 872 and S. 333 have~~
 effective dates for this prohibition of 5 years for ~~central~~
 substances ~~on a priority list~~, and 10 years for all other
 ozone-depleting substances; S. 491 ~~only~~ places limits ~~on~~
 those substances on its list of regulated substances.

MANUFACTURE AND DISPOSAL

S. 872 and S. 333 prohibit the manufacture, process,
 distribution, and use of any ozone-depleting substance
 except in a totally enclosed manner, and require that the
 substance be disposed of in a way that ensures that the
 substance will not be released to the environment. They
 also require that ozone-depleting substances be removed
 from appliances, machines, or other goods before those
 goods are disposed.

S. 491 requires the Administrator of the Environmental
 Protection Agency to promulgate regulations establishing
 standards and requirements for the use of ozone-depleting
 substances and prohibits the use, release, or disposal of
 any ozone-depleting substance in a fashion that permits the
 release of the substance to the atmosphere. ~~These~~
~~regulations may also require a reduction in use, the use of~~
~~alternative substances, and the recovery of these~~
 substances. The Administrator must also promulgate
 regulations establishing standards and requirements for the

-- by --

any for
S. 872

for S. 333, by 1995 for... and
by 2000

Substitution

~~recapture, recycling, and safe disposal of these substances.~~

LIMITATION ON OZONE DEPLETION POTENTIAL

S. 872, S. 333, and S. 491 place ^{limit on} limits on the total ^{Potential} ozone depletion ~~factor~~ of the substances produced by any person. This ~~total ozone depletion factor limit~~ is gradually lowered to zero five years after enactment in the case of S. 872, and by 1996 in the case of S. 333. S. 491 requires the Administrator of the EPA to promulgate ~~regulations mandating~~ a 95 percent reduction in the total ozone depletion ~~factor~~ by 1997. ^{Potential}

PRODUCTION PHASE-OUT EXCEPTION FOR NATIONAL SECURITY

S. 872 and S. 333 allow the production and use of halo-1211 and halon-1301 as may be necessary to protect the national security interests of the United States. S. 491 extends this exception to halon-2402.

CERTIFICATION OF EQUIVALENT PROGRAMS

S. 872, S. 333, and S. 491 all require certification by the Administrator of the EPA that foreign countries have equivalent phaseout programs in place before allowing products that contain, or are manufactured with, ozone-depleting substances to be imported in the United States.

SAFE ALTERNATIVES POLICY

S. 872 establishes the policy that the ^{to} substances to be phased out will be replaced, to the maximum extent possible, by chemicals, product substitutes, or alternative manufacturing processes that reduce overall risks to public health and the environment. It also calls on the Environmental Protection Agency to review and report on the alternatives being considered, and assess their risks to public health and the environment. The requirement of such an assessment assures that alternatives to ozone-depleting substances are not more risky to human health and the environment than the substances they are replacing. ^{to ozone-depleting}

S. 333 and S. 491 do not have comparable provisions.

SIDE-BY-SIDE COMPARISON OF S. 870, S. 871, S. 872, S. 333,
S. 491, AND S. 503

Contained in
The following is a comparison of the major provisions
of S. 870, S. 871, S. 872, S. 333, S. 491, and S. 503.

and to those contained in
Comparison of S. 870 to ~~Other Bills~~

MOBILE AIR-CONDITIONERS *S. 333, S. 491, and S. 503*

S. 870 regulates auto conditioner servicing, to ensure that chlorofluorocarbons (CFCs) are recaptured and recycled, and not unnecessarily vented to the atmosphere. About 30% of U.S. emissions of CFC-12 originate from auto air conditioners, and three-quarters of those emissions occur during maintenance and recharging. S. 870 also eliminates the sale of CFC-containing air conditioner recharge cannisters smaller than 30 pounds, thus limiting the sale of CFC-containing air conditioner fluid to bulk purchasers -- servicers -- only. Finally, S. 870 requires servicers recharging auto air conditioners with CFC-containing fluids, first test the ~~conditioner~~ *system* for leaks and repair those leaks. *that*

S. 333, S. 491, and S. 503 do not have comparable provisions targeted specifically to mobile air-conditioners, but both S. 333 and S. 491 have provisions that could effect this end.

FIRE EXTINGUISHERS FOR CONSUMER APPLICATIONS

S. 870 bans the sale and distribution of fire extinguishers containing halons or any other ozone-depleting substances unless required by federal law. This removes from the market a major source of releases to the atmosphere of halons.

S. 333, S. 491, and S. 503 do not have comparable provisions, but S. 333 and S. 491 have provisions that could effect this end.

NONESSENTIAL CONSUMER PRODUCTS CONTAINING CHLOROFLUOROCARBONS

S. 870 bans the sale and distribution of non-essential consumer products that are capable of releasing ozone-depleting substances into the atmosphere. These products include chlorofluorocarbon-containing plastic party streamers and noise horns, chlorofluorocarbon-containing

cleaning fluids for electronic and photographic equipment and others.

S. 333, S. 491, and S. 503 do not have comparable provisions.

LABELING REQUIREMENTS

S. 870 requires the labeling of consumer products that contain, are produced with, or are produced from an ozone-depleting substance. These labels would warn the purchaser of the product that the product's contents or manufacturing process pose a danger to the stratospheric ozone layer, and that depletion of the ozone layer could lead to increased risk of skin cancer and damage to natural systems, including food production.

The labeling provisions in S. 333 and S. 491 are similar. S. 503 has no similar provision.

CHLOROFLUOROCARBON AND HALON RECLAMATION

S. 870 requires the Secretary of Commerce to issue a plan to provide for the most effective way of ensuring widespread reclamation, recycling, or regulated disposal of ozone-depleting substances and requires that all consumer products containing an ozone-depleting substance have an aperture that allows such substances to be removed without releasing them to the atmosphere. By requiring the preparation of a plan, a comprehensive approach to preventing releases of ozone-depleting substances can be taken and the prevention of their release ensured.

S. 491 requires the Administrator of the Environmental Protection agency to promulgate regulations establishing standards for the recapture, recycling, and safe disposal of ozone-depleting substances. These regulations must mandate, among other things, that goods containing an ozone-depleting substance in bulk must be equipped with a servicing aperture that will allow the recapture of the substance. S. 491 also prohibits the use, release, or disposal of any ozone-depleting substance in a fashion that permits the release of the substance to the atmosphere, and grants the Administrator authority to promulgate regulations effecting this.

S. 333 and S. 503 contain no comparable provisions.

 Comparison of S. 871 to ~~Other Bills~~

S. 333, S. 491, and S. 503

MANUFACTURES' EXCISE TAX ON CHEMICALS THAT DEplete THE OZONE LAYER

S. 871 amends the Internal Revenue Code of 1986 to impose a manufacturers' excise tax on certain chemicals that deplete the stratospheric ozone layer. The amount of the tax is adjusted for each chemical, depending on the chemical's potential for depleting stratospheric ozone.

The tax imposed by S. 871 can be passed on to CFC consumers, raising the price of CFCs; thus the market is used to decrease the demand for the more dangerous chemicals. The increased price due to the tax effectively "internalizes" the environmental costs into the costs of the product (similar logic is used by those who would call for a CO2 tax). If the price is not raised, no incentive is provided for consumers to demand the less dangerous chemicals. The higher price also makes the substitutes more economically competitive with the traditionally very-low-cost CFCs and will eventually provide users with the incentive to recapture and recycle the most dangerous ozone-depleting chemicals.

A tax does not provide for adjustment to capture windfall profits. Companies are expected to use these profits to finance R&D into alternatives. Because their product is being phased out, they will need those revenues to finance a substantial research and development effort.

S. 503 imposes a charge on the production and importation of ozone-depleting chemicals. An ozone depletion potential is assigned to each of the substances, and a fee is set on each pound of CFC or halon produced. A portion of the fees collected would be used to set up a trust fund to provide grants to producers and users to develop substitutes and alternatives to products now manufactured by the chemicals.

The fee imposed by S. 503 is to be absorbed by the CFC manufacturers, keeping the price of CFCs stable. The fee is adjustable, to capture any windfall profits that CFC producers realize as supplies drop during the phaseout and thus prevent the CFC manufacturers' from artificially inflating the price of CFCs.

OZONE LAYER CONSERVATION TRUST FUND

S. 871 provides that one-half of the revenues from the manufacturers' excise tax are put into an ozone layer conservation trust fund. This would equal \$200 million in the first year and rising to \$400 million in the second year. Expenditures from the Trust Fund would provide for government-industry cooperation in research, development,

and market incentives for non-ozone-depleting chemical and technological alternatives to ozone-depleting substances. In addition, the federal government would investigate the means by which it might assist United States manufacturers of such alternative technologies in exporting the equipment for applications in developing and developed countries. S. 871 also incorporates several provisions modeled on past government-industry cooperative efforts to build a new industry, such as block federal purchases of new technology meeting specified performance standards.

S. 503 provides that up to \$100 million of the fee revenues are put into the trust fund, with the rest going to the Treasury. S. 503 does not provide for the creation of markets for alternative technologies, but instead focuses on providing funding for research. Thirty percent of the trust funds are dedicated to funding research into substitutes for ozone-depleting chemicals and 70% of the funds are to support research into alternative products that are produced without ozone-depleting chemicals.

By putting the fee and tax revenues into a trust fund, both S. 871 and S. 503 ensure that a portion of the monies generated by the sale of ozone-depleting substances, be they windfall profits or tax revenues, are used to support research efforts for alternatives to technologies based on these substances, particularly by groups that would not have access to such sources of funding as corporate profits.

Comparison of S. 872 to ~~Other Bills~~

S. 333, S. 491, and S. 503

LISTING OF REGULATED SUBSTANCES

S. 872 requires the Administrator of the Environmental Protection Agency to publish two lists: a priority list of manufactured substances that are known or may reasonably be anticipated to cause or contribute to ozone depletion in the upper atmosphere and are highest priority for being phased out, and a list of other manufactured substances that meet this criteria.

S. 333 and S. 491 have similar provisions, the primary differences being the particular compounds to be included on each list. Following is a summary of these differences:

PRIORITY LIST

<u>Compound</u>	<u>S. 872</u>	<u>S. 333</u>	<u>S. 491</u>
CFC-11	yes	yes	yes
CFC-12	yes	yes	yes

CFC-113	yes	yes	yes
CFC-114	no	no	yes
CFC-115	no	no	yes
methyl chloroform	no	no	yes
halon 1211	yes	yes	yes
halon-1301	yes	yes	yes
halon-2402	no	no	yes
carbon tetrachloride	yes	no	no

LIST OF OTHER REGULATED SUBSTANCES

<u>Compound</u>	<u>S. 872</u>	<u>S. 333</u>	<u>S. 491</u>
CFC-22	yes	yes	yes
CFC-114	yes	yes	no
CFC-115	yes	yes	no
CFC-123	no	no	yes
CFC-124	no	no	yes
CFC-125	no	no	yes
CFC-141(b)	no	no	yes
CFC-142(b)	no	no	yes
methyl chloroform	yes	yes	no
methylene chloride	yes	yes	yes
carbon tetrachloride	yes	yes	yes

S. 872, S. 333, S. 503 and S. 491 also require the Administrator to assign an Ozone Depletion Factor to each listed substance. The ODF is a numerical value representing the ozone depletion potential of each manufactured substance, on a mass basis, as compared to CFC-11. The ODF provisions of S. 872 and S. 333 are identical, and vary from S. 491 only and S. 503 by the substances listed and the ODF value specified for certain substances.

The most significant of the ozone depleters/greenhouse gases are CFC-11 and CFC-12. CFC-113 (used as a solvent), halon-1211, and halon 1301 are other important ozone depleters. Carbon tetrachloride has been implicated in the problem of arctic ozone depletion, and carbon tetrachloride reductions have significantly lowered atmospheric chlorine loadings, according to EPA models. Carbon tetrachloride is used worldwide, in the Third World and East Bloc, in particular, and is used as a feedstock for the manufacture of CFCs, and as an industrial solvent. On April 17, EPA issued an "Advance Notice of Proposed Rulemaking" (ANPRM) to the effect that it intended to add methyl chloroform and carbon tetrachloride to the list of ozone-depleting chemicals already regulated by the Montreal Protocol.

 PRODUCTION PHASEOUT

S. 872, S. 333, and S. 491 all require the phase-out of the production of ozone-depleting substance, differing primarily in the schedule for the phase-out and the compounds to be eliminated. Following is a summary of the compounds to be phased out and the schedule for doing so for each bill.

<u>Compound</u>	<u>S. 871</u>	<u>S. 491</u>	<u>S. 333</u>
CFC-11	w/in 5 yr	1997	1996
CFC-12	5 yr	1997	1996
CFC-22	10 yr	n/a	2000
CFC-113	5 yr	1997	1996
CFC-114	10 yr	1997	2000
CFC-115	10 yr	1997	2000
methyl chloroform	10 yr	1997	2000
halon-1211	5 yr	1997	1996
halon-1301	5 yr	1997	1996
halon-2402	n/a	1997	n/a
carbon tetrachloride	5 yr	n/a	2000
methylene chloride	10 yr	n/a	2000

S. 872 and S. 333 both require the eventual phase-out of all ozone-depleting substances, while S. 491 only requires the elimination of those substances specified on the priority list.

REPORTING REQUIREMENTS,

S. 872, S. 491, and S. 333 require manufacturers of ozone-depleting substances to report the amount of these substances produced during the previous 12-month period. S. 503 has no comparable provision.

LIMITATION ON USE

S. 872, S. 333, and S. 491 limit the use and sale of ozone-depleting substances. S. 872 and S. 333 are identical in that the effective dates for this prohibition is 5 years for substances on the priority list and 10 years for all other substances. S. 491 only places limits on those substances on the priority list.

MANUFACTURE AND DISPOSAL

S. 872 and S. 333 prohibit the manufacture, process, distribution, and use of any ozone-depleting substance except in a totally enclosed manner, and require that the substance be disposed of in a way that ensures that

the substance will not be released to the environment. They also require that ozone-depleting substances be removed from appliances, machines, or other goods before those goods are disposed.

S. 491 requires the Administrator to promulgate regulations establishing standards and requirements for the use of ozone-depleting substances. These regulations may require a reduction in use, the use of alternative substances, and the recovery of these substances. The Administrator must also promulgate regulations establishing standards and requirements for the recapture, recycling, and safe disposal of these substances.

LIMITATION ON OZONE DEPLETION POTENTIAL

S. 872, S. 333, and S. 491 place limits on the total ozone depletion factor of the substances produced by any person. This total ozone depletion factor limit is gradually lowered to zero five years after enactment in the case of S. 872 and in 1996 in the case of S. 333. S. 491 requires the Administrator to promulgate regulations mandating a 95 percent reduction in the total ozone depletion factor by 1997.

PRODUCTION PHASE-OUT EXCEPTION FOR NATIONAL SECURITY

S. 872 and S. 333 allow the production and use of halo-1211 and halon-1301 as may be necessary to protect the national security interests of the United States. S. 491 extends this exception to halon-2402.

CERTIFICATION OF EQUIVALENT PROGRAMS

S. 872, S. 333, and S. 491 all require certification by the Administrator, in consultation with the Secretary of State, that foreign countries have equivalent phaseout programs in place before allowing their products that contain or are manufactured with ozone-depleting substances to be exported to the United States. The provisions in all three bills are similar.

SAFE ALTERNATIVES POLICY

S. 872 establishes the policy that the substances to be phased out will be replaced, to the maximum extent possible, by chemicals, product substitutes, or alternative manufacturing processes that reduce overall risks to public health and the environment. It also calls on EPA to review

and report on the alternatives being considered, and assess their risks to public health and the environment. Considerable concern has been voiced that replacements for ozone-depleting substances be adopted without due regard for any threat that they may pose. By requiring that an assessment be conducted of these alternatives, an assurance can be had that they are not more risky to human health and the environment than the substances they are replacing.

S. 333, S. 491, and S. 503 do not have comparable provisions.

SIDE-BY-SIDE COMPARISON OF S. 870, S. 871, and S. 872, to S. 333, S.491, AND S.503

The following is a comparison of the major provisions contained in S. 870, S. 871, and S. 872, to those contained in S. 333, S. 491, and S. 503.

Comparison of S. 870 to S. 333, S. 491, and S.503

MOBILE AIR-CONDITIONERS

S. 870 regulates auto conditioner servicing, to ensure that chlorofluorocarbons (CFCs) are recaptured and recycled, and not unnecessarily vented to the atmosphere. About 30% of U.S. emissions of CFC-12 originate from auto air conditioners, and three-quarters of those emissions occur during maintenance and recharging. S. 870 also eliminates the sale of CFC-containing air conditioner recharge cannisters smaller than 30 pounds, thus limiting the sale of CFC-containing air conditioner fluid to bulk purchasers -- servicers -- only. Finally, S. 870 requires that servicers recharging auto air conditioners with CFC-containing fluids first test the system for leaks and repair those leaks.

S. 333, S. 491, and S. 503 do not have comparable provisions targeted specifically to mobile air-conditioners, but both S. 333 and S. 491 have provisions that could effect this end.

FIRE EXTINGUISHERS FOR CONSUMER APPLICATIONS

S. 870 bans the sale and distribution of fire extinguishers containing halons or any other ozone-depleting substances unless required by federal law. This removes from the market a major source of releases to the atmosphere of halons.

S. 333, S. 491, and S. 503 do not have comparable provisions, but S. 333 and S. 491 have provisions that could effect this end.

NONESSENTIAL CONSUMER PRODUCTS CONTAINING CHLOROFLUOROCARBONS

S. 870 bans the sale and distribution of non-essential consumer products that are capable of releasing ozone-depleting substances into the atmosphere. These products include chlorofluorocarbon-containing plastic party streamers and noise horns, chlorofluorocarbon-containing cleaning fluids for electronic and photographic equipment and others.

S. 333, S. 491, and S. 503 do not have comparable provisions.

LABELING REQUIREMENTS

S. 870 requires the labeling of consumer products that contain, are produced with, or are produced from an ozone-depleting substance. These labels would warn the purchaser of the product that the product's contents or manufacturing process pose a danger to the stratospheric ozone layer, and that depletion of the ozone layer could lead to increased risk of skin cancer and damage to natural systems, including food production.

The labeling provisions in S. 333 and S. 491 are similar. S. 503 has no similar provision.

CHLOROFLUOROCARBON AND HALON RECLAMATION

S. 870 requires the Secretary of Commerce to issue a plan to provide for the most effective way of ensuring widespread reclamation, recycling, or regulated disposal of ozone-depleting substances and requires that all consumer products containing an ozone-depleting substance have an aperture that allows such substances to be removed without releasing them to the atmosphere. By requiring the preparation of a plan, a comprehensive approach to preventing releases of ozone-depleting substances can be taken and the prevention of their release ensured.

S. 491 requires the Administrator of the Environmental Protection agency to promulgate regulations establishing standards for the recapture, recycling, and safe disposal of ozone-depleting substances. These regulations must mandate, among other things, that goods containing an ozone-depleting substance in bulk must be equipped with a servicing aperture that will allow the recapture of the substance. S. 491 also prohibits the use, release, or disposal of any ozone-depleting substance in a fashion that

permits the release of the substance to the atmosphere, and grants the Administrator authority to promulgate regulations effecting this.

S. 333 and S. 503 contain no comparable provisions.

Comparison of S. 871 to S. 333, S. 491, S. 503

MANUFACTURERS' EXCISE TAX ON CHEMICALS THAT DEplete THE OZONE LAYER

S. 871 amends the Internal Revenue Code of 1986 to impose a manufacturers' excise tax on certain chemicals that deplete the stratospheric ozone layer. The amount of the tax is adjusted for each chemical, depending on the chemical's potential for depleting stratospheric ozone.

The tax imposed by S. 871 can be passed on to CFC consumers, raising the price of CFCs; thus the market is used to decrease the demand for the more dangerous chemicals. The increased price due to the tax effectively "internalizes" the environmental costs into the costs of the product (similar logic is used by those who would call for a CO2 tax). If the price is not raised, no incentive is provided for consumers to demand the less dangerous chemicals. The higher price also makes the substitutes more economically competitive with the traditionally very-low-cost CFCs and will eventually provide users with the incentive to recapture and recycle the most dangerous ozone-depleting chemicals.

A tax does not provide for adjustment to capture windfall profits. Companies are expected to use these profits to finance R&D into alternatives. Because their product is being phased out, they will need those revenues to finance a substantial research and development effort.

S. 503 imposes a charge on the production and importation of ozone-depleting chemicals. An ozone depletion potential is assigned to each of the substances, and a fee is set on each pound of CFC or halon produced. A portion of the fees collected would be used to set up a trust fund to provide grants to producers and users to develop substitutes and alternatives to products now manufactured by the chemicals.

The fee imposed by S. 503 is to be absorbed by the CFC manufacturers, keeping the price of CFCs stable. The fee is adjustable, to capture any windfall profits that CFC producers realize as supplies drop during the phaseout and

thus prevent the CFC manufacturers' from artificially inflating the price of CFCs.

OZONE LAYER CONSERVATION TRUST FUND

S. 871 provides that one-half of the revenues from the manufacturers' excise tax are put into an ozone layer conservation trust fund. This would equal \$200 million in the first year and rising to \$400 million in the second year. Expenditures from the Trust Fund would provide for government-industry cooperation in research, development, and market incentives for non-ozone-depleting chemical and technological alternatives to ozone-depleting substances. In addition, the federal government would investigate the means by which it might assist United States manufacturers of such alternative technologies in exporting the equipment for applications in developing and developed countries. S. 871 also incorporates several provisions modeled on past government-industry cooperative efforts to build a new industry, such as block federal purchases of new technology meeting specified performance standards.

S. 503 provides that up to \$100 million of the fee revenues are put into the trust fund, with the rest going to the Treasury. S. 503 does not provide for the creation of markets for alternative technologies, but instead focuses on providing funding for research. Thirty percent of the trust funds are dedicated to funding research into substitutes for ozone-depleting chemicals and 70% of the funds are to support research into alternative products that are produced without ozone-depleting chemicals.

By putting the fee and tax revenues into a trust fund, both S. 871 and S. 503 ensure that a portion of the monies generated by the sale of ozone-depleting substances, be they windfall profits or tax revenues, are used to support research efforts for alternatives to technologies based on these substances, particularly by groups that would not have access to such sources of funding as corporate profits.

Comparison of S. 872 to Other Bills

LISTING OF REGULATED SUBSTANCES

S. 872 requires the Administrator of the Environmental Protection Agency to publish two lists: a priority list of manufactured substances that are known or may reasonably be anticipated to cause or contribute to ozone depletion in the upper atmosphere and are highest priority for being

phased out, and a list of other manufactured substances that meet this criteria.

S. 333 and S. 491 have similar provisions, the primary differences being the particular compounds to be included on each list. Following is a summary of these differences:

PRIORITY LIST

<u>Compound</u>	<u>S. 872</u>	<u>S. 333</u>	<u>S. 491</u>
CFC-11	yes	yes	yes
CFC-12	yes	yes	yes
CFC-113	yes	yes	yes
CFC-114	no	no	yes
CFC-115	no	no	yes
methyl chloroform	no	no	yes
halon 1211	yes	yes	yes
halon-1301	yes	yes	yes
halon-2402	no	no	yes
carbon tetrachloride	yes	no	no

LIST OF OTHER REGULATED SUBSTANCES

<u>Compound</u>	<u>S. 872</u>	<u>S. 333</u>	<u>S. 491</u>
CFC-22	yes	yes	yes
CFC-114	yes	yes	no
CFC-115	yes	yes	no
CFC-123	no	no	yes
CFC-124	no	no	yes
CFC-125	no	no	yes
CFC-141(b)	no	no	yes
CFC-142(b)	no	no	yes
methyl chloroform	yes	yes	no
methylene chloride	yes	yes	yes
carbon tetrachloride	yes	yes	yes

S. 872, S. 333, S. 503 and S. 491 also require the Administrator to assign an Ozone Depletion Factor to each listed substance. The ODF is a numerical value representing the ozone depletion potential of each manufactured substance, on a mass basis, as compared to CFC-11. The ODF provisions of S. 872 and S. 333 are identical, and vary from S. 491 only and S. 503 by the substances listed and the ODF value specified for certain substances.

The most significant of the ozone depleters/greenhouse gases are CFC-11 and CFC-12. CFC-113 (used as a solvent),

halon-1211, and halon 1301 are other important ozone depleters. Carbon tetrachloride has been implicated in the problem of arctic ozone depletion, and carbon tetrachloride reductions have significantly lowered atmospheric chlorine loadings, according to EPA models. Carbon tetrachloride is used worldwide, in the Third World and East Bloc, in particular, and is used as a feedstock for the manufacture of CFCs, and as an industrial solvent. On April 17, EPA issued an "Advance Notice of Proposed Rulemaking" (ANPRM) to the effect that it intended to add methyl chloroform and carbon tetrachloride to the list of ozone-depleting chemicals already regulated by the Montreal Protocol.

PRODUCTION PHASEOUT

S. 872, S. 333, and S. 491 all require the phase-out of the production of ozone-depleting substance, differing primarily in the schedule for the phase-out and the compounds to be eliminated. Following is a summary of the compounds to be phased out and the schedule for doing so for each bill.

<u>Compound</u>	<u>S. 871</u>	<u>S. 491</u>	<u>S. 333</u>
CFC-11	w/in 5 yr	1997	1996
CFC-12	5 yr	1997	1996
CFC-22	10 yr	n/a	2000
CFC-113	5 yr	1997	1996
CFC-114	10 yr	1997	2000
CFC-115	10 yr	1997	2000
methyl chloroform	10 yr	1997	2000
halon-1211	5 yr	1997	1996
halon-1301	5 yr	1997	1996
halon-2402	n/a	1997	n/a
carbon tetrachloride	5 yr	n/a	2000
methylene chloride	10 yr	n/a	2000

S. 872 and S. 333 both require the eventual phase-out of all ozone-depleting substances, while S. 491 only requires the elimination of those substances specified on the priority list.

REPORTING REQUIREMENTS,

S. 872, S. 491, and S. 333 require manufacturers of ozone-depleting substances to report the amount of these substances produced during the previous 12-month period. S. 503 has no comparable provision.

LIMITATION ON USE

S. 872, S. 333, and S. 491 limit the use and sale of ozone-depleting substances. S. 872 and S. 333 are identical in that the effective dates for this prohibition is 5 years for substances on the priority list and 10 years for all other substances. S. 491 only places limits on those substances on the priority list.

MANUFACTURE AND DISPOSAL

S. 872 and S. 333 prohibit the manufacture, process, distribution, and use of any ozone-depleting substance except in a totally enclosed manner, and require that the substance be disposed of in a way that ensures that the substance will not be released to the environment. They also require that ozone-depleting substances be removed from appliances, machines, or other goods before those goods are disposed.

S. 491 requires the Administrator to promulgate regulations establishing standards and requirements for the use of ozone-depleting substances. These regulations may require a reduction in use, the use of alternative substances, and the recovery of these substances. The Administrator must also promulgate regulations establishing standards and requirements for the recapture, recycling, and safe disposal of these substances.

LIMITATION ON OZONE DEPLETION POTENTIAL

S. 872, S. 333, and S. 491 place limits on the total ozone depletion factor of the substances produced by any person. This total ozone depletion factor limit is gradually lowered to zero five years after enactment in the case of S. 872 and in 1996 in the case of S. 333. S. 491 requires the Administrator to promulgate regulations mandating a 95 percent reduction in the total ozone depletion factor by 1997.

PRODUCTION PHASE-OUT EXCEPTION FOR NATIONAL SECURITY

S. 872 and S. 333 allow the production and use of halo-1211 and halon-1301 as may be necessary to protect the national security interests of the United States. S. 491 extends this exception to halon-2402.

CERTIFICATION OF EQUIVALENT PROGRAMS

S. 872, S. 333, and S. 491 all require certification by the Administrator, in consultation with the Secretary of State, that foreign countries have equivalent phaseout programs in place before allowing their products that contain or are manufactured with ozone-depleting substances to be exported to the United States. The provisions in all three bills are similar.

SAFE ALTERNATIVES POLICY

S. 872 establishes the policy that the substances to be phased out will be replaced, to the maximum extent possible, by chemicals, product substitutes, or alternative manufacturing processes that reduce overall risks to public health and the environment. It also calls on EPA to review and report on the alternatives being considered, and assess their risks to public health and the environment. Considerable concern has been voiced that replacements for ozone-depleting substances be adopted without due regard for any threat that they may pose. By requiring that an assessment be conducted of these alternatives, an assurance can be had that they are not more risky to human health and the environment than the substances they are replacing.

S. 333, S. 491, and S. 503 do not have comparable provisions.

S. 870
Consumer Ozone Protection Act of 1989

SUMMARY: The Bill would label, regulate, and -- in some cases -- eliminate the sale of certain consumer products that contain manmade substances that have been shown to deplete the stratospheric ozone layer. In addition, it promotes the development of a Chlorofluorocarbon and Halon Reclamation Plan for the purpose of encouraging recapture and recycling of ozone-depleting substances.

SPECIFIC PROVISIONS INCLUDE:

o Mobile Air Conditioners.

- Regulates auto air conditioner servicing, to ensure that chlorofluorocarbons (CFCs) are recaptured and recycled, and not unnecessarily vented to the atmosphere. (About 30% of U.S. emissions of CFC-12 originate from auto air conditioners, and three-quarters of those emissions occur during maintenance and recharging.)

- Eliminates the sale of CFC-containing air conditioner recharge cannisters smaller than 30 pounds. (This provision is intended to limit the sale of CFC-containing air conditioner fluid to bulk purchasers -- servicers -- only.)

- Requires that any servicer who recharges an auto air conditioner with CFC-containing fluids, first test the system for leaks and repair those leaks.

o Fire Extinguishers for Consumer Applications.

- Eliminates the sale of fire extinguishers that contain ozone-depleting substances for consumer applications, except for those applications required by Federal law.

o Nonessential Consumer Products Containing Chlorofluorocarbons.

- Eliminates the sale of certain nonessential CFC-containing consumer products (e.g., party streamers, noise horns, certain cleaning fluids.)

o Labeling.

- Labels consumer products that contain ozone-depleting chemicals, or use such chemicals in their manufacture or operation. The label would warn that the product's contents or manufacturing process pose a danger to

the stratospheric ozone layer, and that depletion of the ozone layer could lead to increased risk of skin cancer and damage to natural systems, including food production.

o Chlorofluorocarbon and Halon Reclamation Plan.

- Calls for a Chlorofluorocarbon and Halon Reclamation Plan, for the purpose of determining the most effective way to ensure widespread reclamation, recycling, or regulated disposal of the ozone-depleting chemicals covered by the Act,

-Referred to Commerce Committee.

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S. 871
Ozone Layer Conservation Act of 1989

SUMMARY: The Bill calls for a manufacturers' excise tax on certain chemicals that deplete the stratospheric ozone layer; establishes an Ozone Layer Conservation Trust Fund in the Treasury Department; and directs half of the revenues from the excise tax into the Trust Fund for the purpose of promoting research, development, and market incentives for technological alternatives to ozone-depleting chemicals.

SPECIFIC PROVISIONS INCLUDE:

o Manufacturers' Excise Tax on Chemicals that Deplete the Stratospheric Ozone Layer.

- Amends the Internal Revenue Code of 1986 to impose a manufacturers' excise tax on certain chemicals that deplete the stratospheric ozone layer. The amount of the tax is adjusted for each chemical, depending upon the chemical's potential for depleting stratospheric ozone.

- A similar bill has been introduced in the House of Representatives by Rep. Stark, with 59 co-sponsors; according to a Joint Committee on Taxation study, this measure would raise 0.4 billion in the first year, 0.8 billion in the second year, 1.1 billion in the third year, 1.3 billion in the fourth year, and 1.5 billion in the fifth year.

o Ozone Layer Conservation Trust Fund.

- Would receive one-half of the revenues from the manufacturers' excise tax.

- Expenditures from the Trust Fund would provide for government-industry cooperation in research, development, and market incentives for non-ozone-depleting chemical and technological alternatives (such as new refrigerator and air conditioner designs) to ozone-depleting substances.

- In addition, the federal government would investigate the means by which it might assist United States manufacturers of such alternative technologies, in exporting the equipment for applications in developing and developed countries.

-Referred to Finance Committee.

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S. 872
Upper-Ozone Chemicals Act of 1989

SUMMARY: The Bill provides for a five-year phaseout of six substances that deplete the stratospheric ozone layer (CFC-11, CFC-12, CFC-113, halon-1211, halon-1301, carbon tetrachloride), and a ten-year phaseout of other ozone-depleting substances (CFC-22, CFC-114, CFC-115, methyl chloroform, methylene chloride), with exceptions for medical and national security reasons. There are provisions for certifying that nations from which we import products that contain ozone-depleting chemicals have a similar phaseout program in place, and a requirement for safe disposal of ozone-depleting substances. Finally, the bill calls for developing a safe alternatives policy, for replacing the substances to be phased out with chemicals, product substitutes, or alternative manufacturing processes that reduce overall risk to public health and the environment.

SPECIFIC PROVISIONS INCLUDE:

o A Production Phaseout.

- Five-year phaseout for CFC-11, CFC-12, CFC-113, halon-1211, halon-1301, carbon tetrachloride.

- Ten-year phaseout for CFC-22, CFC-114, CFC-115, methyl chloroform, and methylene chloride.

- There is an exception to the production phaseout for medical and national security reasons.

o Certification of Equivalent Foreign Phaseout Programs.

- Requires certification by the Secretary of State that foreign countries have equivalent phaseout programs in place before allowing their products that contain or are manufactured with ozone-depleting substances, to be exported to the United States.

o Disposal of Ozone-Depleting Substances, and of Products That Contain Ozone-Depleting Substances.

- Requires ozone-depleting substances to be disposed of in a way that ensures that the substances will not be released to the environment.

- Requires that ozone-depleting substances be removed from appliances, machines, or other goods before those goods are disposed of, and that the substances be disposed of as indicated above.

o Safe Alternatives Policy.

- Establishes the policy that the substances to be phased out will be replaced, to the maximum extent possible, by chemicals, product substitutes, or alternative manufacturing processes that reduce overall risks to public health and the environment.

- Calls on EPA to review and report on the alternatives being considered, and assess their risks to public health and the environment.

-Referred to Environment and Public Works Committee.

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M E M O R A N D U M

DATE: May 18, 1989

TO: Al

FROM: Rick

SUBJECT: CFC/Ozone Hearing Tomorrow

The Subcommittee on Environmental Protection (Baucus chairs) of the Environment and Public Works Committee is holding hearings tomorrow on pending CFC legislation. Bills from you, Baucus, Chafee, and Leahy will be discussed. You will testify in the first panel, after Leahy. Baucus and Chafee are on the Committee.

The hearing will focus mainly on the Baucus and Chafee bills. They were the only original co-sponsors of each bill.

BAUCUS BILL

Assigns an ozone depletion potential to each of the substances, and sets a FEE (not "tax") on each pound of CFC or halon produced. The fee begins at 25 cents and increases annually until it reaches \$2.50 per pound in 1994. Up to \$100 million of the fees collected would be used to set up a trust fund to provide grants to producers and users to develop substitutes and alternatives to products now manufactured by the chemicals.

CHAFEE BILL

Phases out CFC-11, -12, -113, -114, -115, methyl chloroform, halon-1211, -1301, -2402 on the following schedule: freeze production -- on July 1, 1989 -- at 1986 levels; reduce production -- on July 1, 1992 -- to 80% of 1986 levels; reduce production -- on July 1, 1995 -- to 50% of 1986 production levels; eliminate production entirely on July 1, 1997.

Other provisions are similar to yours: exceptions for national security, use the chemicals in enclosed areas to reduce emissions, certify that other nations from which we import CFC-containing equipment have similar programs, other minor considerations (you have these provisions in S.872).

LEAHY BILL

Basically, Leahy introduced Stafford's bill from last Congress -- so it should be similar to our ozone provisions in S.201 (we got most of them from Stafford's bill). His phaseout schedule is listed below.

Leahy may also mention his and Kerry and Gore's (we got you on as an original co-sponser) auto A/C bill that was introduced today. You should tell Leahy before the hearing that you're an original co-sponser with him, because he probably won't have gotten the word from staff. If he mentions it, then he'll have to include you. And remember, your five-year CFC-12 production phaseout essentially does the same thing. The auto A/C bill mandates that "a minimum of 25% of the motor vehicles with air conditioners sold in the U.S. in 1993 use alternative refrigerants which are far less harmful to the environment. The phaseout process continues to increase to 50% by 1994 and 100% in 1995." (I'm taking this information from a press release.)

GORE BILLS

I've forwarded the summaries of S.870, 871, and 872 for your review.

DIFFERENCES AND POSSIBLE CONFLICTS

1. Chafee and Gore phaseouts compare as follows:

	Gore	Chafee	Leahy
CFC-11	w/in 5 yr	1997	1996
CFC-12	5 yr	1997	1996
CFC-22	10 yr	n/a	2000
CFC-113	5 yr	1997	1996
CFC-114	10 yr	1997	2000
CFC-115	10 yr	1997	2000
methyl chloroform	10 yr	1997	2000
halon-1211	5 yr	1997	1996
halon-1301	5 yr	1997	1996
halon-2402	n/a	1997	n/a
carbon tetrachloride	5 yr	n/a	2000
methylene chloride	10 yr	n/a	2000

The most dangerous ozone depleters/greenhouse gases, as I see it, are CFC-11 and CFC-12. CFC-113 (used as a solvent), halon-1211, and halon 1301 are other important ozone depleters. We included carbon tetrachloride in our five-year phaseout after the alarms sounded by Bob Watson at your Arctic ozone hearing, and the strong impact that carbon tetrachloride reductions have in lowering atmospheric chlorine loadings, according to EPA models. Carbon tetrachloride is used worldwide, in the Third World and East Bloc, in particular. It is used as a feedstock from which

to manufacture CFCs, and as an industrial solvent. It is very toxic.

On April 17, EPA issued an "Advance Notice of Proposed Rulemaking" (ANPRM) to the effect that it intended to add methyl chloroform and carbon tetrachloride to the list of ozone-depleting chemicals already regulated by the Montreal Protocol.

 2. Gore and Baucus tax and fee compare as follows:

(a) Gore tax can be passed on to CFC consumers, raising the price of CFCs; Baucus fee is to be absorbed by the CFC manufacturers, keeping the price of CFCs stable.

Argument to support Gore approach is that higher prices use the market to decrease demand for the more dangerous chemicals; the increased price due to the tax effectively "internalizes" the environmental costs into the costs of the product (similar logic is used by those who would call for a CO2 tax). If you do not raise the price, you provide no incentive for consumers to demand the less dangerous chemicals. In addition, the higher price makes the substitutes more economically competitive with the traditionally very-low-cost CFCs. Finally, the higher price will eventually provide users with the incentive to recapture and recycle the most dangerous ozone-depleting chemicals.

 (b) Baucus fee is adjustable, to capture any windfall profits that CFC producers realize as supplies drop during the phaseout; Gore tax does not provide for adjustment to capture windfall profits.

Argument to support Gore approach is that the companies will supposedly be using those profits to finance R&D into alternatives. We are, in effect, giving the companies the benefit of the doubt when they argue that we undermine their ability to produce alternatives when we simultaneously rake off their profits. We're phasing out their product already -- in our case, on the fastest timetable yet proposed. Under the Gore phaseout proposal, they will need those revenues to finance a crash R&D effort. We are not trying to disadvantage U.S. companies, we want them to find the solutions and improve our economic competitiveness in the process.

(c) Compare Gore and Baucus Trust Funds.

Basically, they are very similar in nature -- both fund R&D into alternative chemicals and technologies. Your Trust Fund gets 50% of the revenues from the excise tax (200 million in the first year, etc. -- refer to S.871 summary

for revenues from excise tax) and the rest go to the Treasury. Baucus puts up to 100 million into his trust fund, the rest to Treasury. Your Trust Fund incorporates unique provisions modeled on my awareness of past government-industry cooperative efforts to build a new industry (such as the solar photovoltaic industry in the late 1970s) -- such as block federal purchases of new technology meeting specified performance standards. This type of approach adds to the market incentive to produce such alternative technologies.

(d) Bottom Line: You have introduced a comprehensive package in S.870, 871, and 872. The provisions of S.871 (excise tax and Trust Fund) are necessary complements to the other bills. For example, higher prices encourage recapture and recycling, and make alternatives more economically competitive.