MISCELLANEOUS ENERGY TAX BILLS

HEARING

BEFORE THE

SUBCOMMITTEE ON
ENERGY AND AGRICULTURAL TAXATION

OF THE

COMMITTEE ON FINANCE
UNITED STATES SENATE

NINETY-SEVENTH CONGRESS

FIRST SESSION

ON

S. 307, S. 448, S. 498 and S. 725

JUNE 8, 1981

Printed for the use of the Committee on Finance

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MISCELLANEOUS ENERGY TAX BILLS

MONDAY, JUNE 8, 1981

U.S. SENATE,
COMMITTEE ON FINANCE,
SUBCOMMITTEE ON ENERGY AND AGRICULTURAL TAXATION,
Washington, D.C.

The subcommittee met, pursuant to notice, at 9 a.m., in room 2221, Dirksen Senate Office Building, Hon. Malcolm Wallop (acting chairman) presiding.

Present: Senators Wallop and Matsunaga.

[The press release, announcing this hearing, the bills S. 307, S. 448, S. 498 and S. 725 and the Joint Committee's description of these bills follow:]

Press Release No. 81-134

PRESS RELEASE

FOR IMMEDIATE RELEASE
MAY 18, 1981

COMMITTEE ON FINANCE
UNITED STATES SENATE
Subcommittee on Energy and
Agricultural Taxation
2227 Dirksen Senate Office Building

FINANCE SUBCOMMITTEE ON ENERGY AND AGRICULTURAL TAXATION SETS HEARING ON MISCELLANEOUS ENERGY TAX BILLS

Senator Malcolm Wallop, Chairman of the Subcommittee on Energy and Agricultural Taxation of the Senate Committee on Finance announced today that the Subcommittee will hold a hearing on June 8, 1981.

The hearing will begin at 9:30 a.m. on June 8, 1981, in Room 2221 of the Dirksen Senate Office Building.

The following legislative proposals will be considered at the hearing:

S. 448 -- Introduced by Senator Matsunaga. Would exempt fuels used by intercity, local and school buses from the Federal motor fuel excise tax.

S. 307 -- Introduced by Senator Cochran. Would exempt interests held by residential child care agencies from the Windfall Profit Tax.

S. 498 -- Introduced by Senator Hart. Would provide a tax credit to home builders for the construction of residences containing passive solar energy systems.

S. 725 -- Introduced by Senator Wallop. Would expand the category of shale oil property eligible for the energy investment credit.

Requests to Testify. -- Witnesses who desire to testify at the hearing on June 8, 1981 must submit a written request to Robert E. Lighthizer, Chief Counsel, Committee on Finance, Room 2227, Dirksen Senate Office Building, Washington, D.C. 20510, to be received no later than noon on Monday, June 1, 1981. Witnesses will be notified as soon as practicable thereafter whether it has been possible to schedule them to present oral testimony. If for some reason a witness is unable to appear at the time scheduled, he may file a written statement for the record in lieu of the personal appearance. In such case a witness should notify the Committee of his inability to appear as soon as possible.

Consolidated testimony. -- Senator Wallop urges all witnesses who have a common position or who have the same general interest to consolidate their testimony and designate a single spokesman to present their common viewpoint orally to the Subcommittee. This procedure will enable the Subcommittee to receive a wider expression of views than it might otherwise obtain. Senator Wallop urges very strongly that all witnesses exert a maximum effort to consolidate and coordinate their statements.

Legislative Reorganization Act. -- Senator Wallop stated that the Legislative Reorganization Act of 1946, as amended, requires all witnesses appearing before the Committees of Congress "to file in advance written statements of their proposed testimony, and to limit their oral presentations to brief summaries of their argument."

Witnesses scheduled to testify should comply with the following rules:

(1) A copy of the statement must be filed not later than noon on the last business day before the witness is scheduled to appear.

(2) All witnesses must include with their written statement a summary of the principal points included in the statement.

(3) The written statements must be typed on letter-size paper (not legal size) and at least 100 copies must be submitted by noon on Friday, June 5, 1981.

(4) Witnesses should not read their written statements to the Subcommittee, but ought instead to confine their oral presentation to a summary of the points included in the statement.

(5) Not more than five minutes will be allowed for the oral summary.

Written statements. Witnesses who are not scheduled to make oral presentation, and others who desire to present their views to the Subcommittee, are urged to prepare a written statement for submission and inclusion in the printed record of the hearings. These written statements should be typewritten, not more than 25 double-spaced pages in length, and mailed with five (5) copies to Robert E. Lighthizer, Chief Counsel, Committee on Finance, Room 2227, Dirksen Senate Office Building, Washington, D.C. 20510, not later than Monday, June 22, 1981.

P.R. #81-134

II

97TH CONGRESS
1ST SESSION

S. 307

To amend the Internal Revenue Code of 1954 to exempt from the windfall profit tax oil produced from interests held by or for residential child care agencies.

IN THE SENATE OF THE UNITED STATES

JANUARY 29 (legislative day, JANUARY 5), 1981

Mr. BAKER (for Mr. COCHRAN) (for himself, Mr. BOREN, Mr. BENTSEN, Mr. TOWER, Mr. WALLOP, and Mr. SYMMS) introduced the following bill; which was read twice and referred to the Committee on Finance

---

A BILL

To amend the Internal Revenue Code of 1954 to exempt from the windfall profit tax oil produced from interests held by or for residential child care agencies.

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 "Child Care Agency Tax Amendments of 1980".

SEC. 2. EXEMPTION FROM WINDFALL PROFIT TAX OF CRUDE OIL PRODUCED FROM INTERESTS HELD BY OR FOR THE BENEFIT OF RESIDENTIAL CHILD CARE AGENCIES.

(a) IN GENERAL.—Subparagraph (A) of section 4994(b)(1) of the Internal Revenue Code of 1954 (relating to qualified charitable interest) is amended by adding at the end thereof the following new clause:

"(iii) held—

"(I) by a residential child care agency, or

"(II) by an organization described in section 170(c)(2) for the benefit of a residential child care agency, and".

(b) RESIDENTIAL CHILD CARE AGENCY DEFINED.—Subsection (b) of section 4994 of such Code is amended by adding at the end thereof the following new paragraph:

"(3) RESIDENTIAL CHILD CARE AGENCY.—For purposes of this section, the term 'residential child care agency' means an organizati described in section 170(c)(2) which is organized and operated primarily for the residential placement, care, or treatment of delinquent, dependent, neglected, or handicapped children.".

(c) TECHNICAL AND CONFORMING AMENDMENTS.—

(1) Subparagraph (A) of section 4994(b)(1) of such Code is amended—

(A) by striking out "or" at the end of clause (i), and

(B) by striking out "and" at the end thereof and inserting in lieu thereof "or".

(2) Subparagraph (B) of section 4994(b)(1) of such Code is amended to read as follows:

"(B) such interest was held on January 21, 1980, and at all times thereafter before the last day of the taxable period, by the organization described in clause (i) of subparagraph (A), subclause (I) of clause (ii) of subparagraph (A), subclause (II) of clause (iii) of subparagraph (A), or a residential child care agency.".

SEC. 3. EFFECTIVE DATE.

The amendments made by this Act shall apply to calendar quarters beginning after December 31, 1980.

II

97TH CONGRESS
1ST SESSION

S. 448

To amend the Internal Revenue Code of 1954 to exempt certain fuels used in connection with intercity, local, and school buses, from the Federal excise tax.

IN THE SENATE OF THE UNITED STATES

FEBRUARY 6 (legislative day, JANUARY 5), 1981

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

---

A BILL

To amend the Internal Revenue Code of 1954 to exempt certain fuels used in connection with intercity, local, and school buses, from the Federal excise tax.

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

SECTION 1. EXEMPTION OF EXCISE TAX ON CERTAIN FUELS USED IN CONNECTION WITH INTERCITY, LOCAL, AND SCHOOL BUSES.

(a) GASOLINE.—Subsection (e) of section 4221 (relating to special rule for certain tax free sales) is amended by inserting after paragraph (6) the following new paragraph:

"(7) INTERCITY, LOCAL, OR SCHOOL BUSES.—

"(A) EXEMPTION.—Under regulations prescribed by the Secretary, except as provided in subparagraph (B), no tax shall be imposed on the sale of gasoline by section 4081, if it is used in an automobile bus while engaged in—

"(i) furnishing (for compensation) passenger land transportation available to the general public, or

"(ii) the transportation of students and employees of schools (as defined in the last sentence of subsection (d)(7)(C)).

"(B) LIMITATION IN CASE OF NONSCHEDULED INTERCITY OR LOCAL BUSES.—Subparagraph (A)(i) shall not apply with respect of gasoline used in any automobile bus while engaged in furnishing transportation which is not scheduled and not along regular routes unless the seating capacity of such bus is at least 20 adults (not including the driver).".

(b) DIESEL AND SPECIAL MOTOR FUELS.—Subsection (g) of section 4041 (relating to exemption from tax on diesel and other fuels) is amended by—

(1) striking "and" at the end of paragraph (3),

(2) striking "." at the end of paragraph (4) and inserting ", and", and

(3) inserting after paragraph (4) and before the last two sentences the following new paragraph:

"(5) with respect to the sale of any liquid for use in an automobile bus while engaged in—

"(A) furnishing (for compensation) passenger land transportation available to the general public, or

"(B) the transportation of students and employees of schools (as defined in the last sentence of section 4221(d)(7)(C)),

except subparagraph (A) shall not apply to sales for use in an automobile bus while engaged in furnishing transportation which is not scheduled and not along regular routes unless the seating capacity of such bus is 20 adults (not including the driver).".

(c) REGISTRATION.—Subsection (i) of section 4041 (relating to registration of certain exemptions) is amended to read as follows:

"(i) REGISTRATION.—

"(1) AIRCRAFT FUEL.—If any liquid is sold by any person for use as a fuel in an aircraft, it shall be presumed for purposes of this section that a tax imposed by this section applies to the sale of such liquid

unless the purchaser is registered in such manner (and furnishes such information in respect of the liquid) as the Secretary shall by regulations provide.

"(2) INTERCITY, LOCAL, OR SCHOOL BUSES.—If any fuel subject to tax under subsection (a) or (b) is sold by any person for use in furnishing transportation described in subsection (g)(4), it shall be presumed for purposes of this section that a tax imposed by this section applies to the sale of such fuel unless the purchaser is registered in such manner (and furnishes such information in respect of the fuel) as the Secretary shall by regulation provide.".

(d) OVERPAYMENTS IN CERTAIN CASES.—Section 6416(b)(2) is amended by—

(1) striking "or" at the end of subparagraph (M),

(2) striking "." at the end of subparagraph (N) and inserting "; or", and

(3) inserting after subparagraph (M) and before the last sentence the following new subparagraph:

"(O) used or sold for use as fuel in a bus engaged in exempt intercity, local, or school transportation as described in section 4221(e)(7) or section 4041(g)(5).".

SEC. 2. EFFECTIVE DATE.

The amendments made by section 1 shall take effect on January 1, 1982.

II

97TH CONGRESS
1ST SESSION

S. 498

To amend the Internal Revenue Code of 1954 to provide a tax credit to homebuilders for the construction of residences incorporating certain solar energy utilization characteristics.

IN THE SENATE OF THE UNITED STATES

FEBRUARY 19 (legislative day, FEBRUARY 16), 1981

Mr. HART (for himself, Mr. PERCY, Mr. TSONGAS, Mr. CRANSTON, Mr. HATFIELD, Mr. BRADLEY, Mr. BAUCUS, Mr. LEAHY, Mr. SARBANES, Mr. RANDOLPH, Mr. WILLIAMS, Mr. HEFLIN, Mr. LEVIN, Mr. METZENBAUM, Mr. DECONCINI, Mr. EXON, and Mr. DOMENICI) introduced the following bill; which was read twice and referred to the Committee on Finance

---

A BILL

To amend the Internal Revenue Code of 1954 to provide a tax credit to homebuilders for the construction of residences incorporating certain solar energy utilization characteristics.

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

SECTION 1. CREDIT FOR PASSIVE SOLAR RESIDENTIAL CONSTRUCTION.

(a) IN GENERAL.—Subpart A of part IV of subchapter A of chapter 1 of the Internal Revenue Code of 1954 (relat-

ing to credits allowable) is amended by inserting immediately before section 45 the following new section:

"SEC. 44F. CREDIT FOR PASSIVE SOLAR RESIDENTIAL CONSTRUCTION.

"(a) ALLOWANCE OF CREDIT.—In the case of a builder of a new residential unit which incorporates a passive solar energy system, there shall be allowed as a credit against the tax imposed by this chapter for the taxable year an amount determined under the solar construction credit table prescribed by the Secretary under subsection (d).

"(b) LIMITATIONS.—

"(1) MAXIMUM DOLLAR AMOUNT PER UNIT.—The amount of the credit allowed by subsection (a) shall not exceed $2,000 for a residential unit.

"(2) APPLICATION WITH OTHER CREDITS.—The credit allowed by subsection (a) shall not exceed the tax imposed by this chapter for the taxable year, reduced by the sum of the credits allowable under a section of this subpart having a lower number or letter designation than this section, other than credits allowable by sections 31, 39, and 43.

"(c) DEFINITIONS; SPECIAL RULES.—For purposes of this section—

"(1) BUILDER.—The term 'builder' means a person who is in the trade or business of building resi-

dential units and has a proprietary interest in the residential unit built.

"(2) NEW RESIDENTIAL UNIT.—The term 'new residential unit' means any unit—

"(A) which is located in the United States,

"(B) which is designed for use as a residence,

"(C) which is a unit of a building having less than 5 residential units,

"(D) the construction of which is completed after September 30, 1981, and before January 1, 1987, and

"(E) which is ready for occupancy before January 1, 1987.

"(3) PASSIVE SOLAR ENERGY SYSTEM.—The term 'passive solar energy system' means a system—

"(A) which contains—

"(i) a solar collection area,

"(ii) an absorber,

"(iii) a storage mass,

"(iv) a heat distribution method, and

"(v) heat regulation devices, and

"(B) which is installed in a new residential unit after September 30, 1981, and before January 1, 1987.

"(4) SOLAR COLLECTION AREA.—The term 'solar collection area' means an expanse of transparent or translucent material that—

"(A) is located on that side of the structure which faces (within 30 degrees) south, and

"(B) the position of which may be changed from vertical to horizontal in such a manner that the rays of the Sun directly strike an absorber.

"(5) ABSORBER.—The term 'absorber' means a hard surface that—

"(A) is exposed to the rays of the Sun admitted through a solar collection area,

"(B) converts solar radiation into heat, and

"(C) transfers heat to a storage mass.

"(6) STORAGE MASS.—The term 'storage mass' means a dense, heavy material that—

"(A) receives and holds heat from an absorber and later releases the heat to the interior of the structure,

"(B) is of sufficient volume, depth, and thermal energy capacity to store and deliver adequate amounts of solar heat for the structure in which it is incorporated,

"(C) is located so that it is capable of distributing the stored heat directly to the habitable

areas of the structure through a heat distribution method, and

"(D) has an area of directly irradiated material equal to or greater than the solar collection area.

"(7) HEAT DISTRIBUTION METHOD.—The term 'heat distribution method' means—

"(A) the release of radiant heat from a storage mass within the habitable areas of the structure, or

"(B) convective heating from a storage mass, through airflow paths provided by openings or by ducts (with or without the assistance of a fan or pump having a horsepower rating of less than 1 horsepower) in the storage mass, to habitable areas of a structure.

"(8) HEAT REGULATION DEVICE.—The term 'heat regulation device' means—

"(A) shading or venting mechanisms to control the amount of solar heat admitted through solar collection areas; and

"(B) nighttime insulation or its equivalent to control the amount of heat permitted to escape from the interior of a structure.

"(9) JOINT PROPRIETARY INTEREST IN RESIDENTIAL UNIT.—If 2 or more builders have a proprietary interest in a residential unit, the credit allowable under subsection (a) shall be apportioned to each builder on the basis of his ownership interest in the residential unit.

"(d) SOLAR CONSTRUCTION CREDIT TABLE.—

"(1) PRESCRIPTION OF TABLE.—After consultation with the Secretary of Energy and the Secretary of Housing and Urban Development, the Secretary by regulations shall—

"(A) prescribe the solar construction credit table referred to in subsection (a) which meets the requirements set forth in paragraph (2), and

"(B) prescribe a table of insulation factors, based on the amounts of insulation in floors, walls, and ceilings and the number of panes of glass in the windows of a structure, for 8 categories of residential units ranging from one having no added insulation to one having the maximum feasible amount of insulation.

"(2) REQUIREMENTS FOR SOLAR CONSTRUCTION CREDIT TABLE.—

"(A) IN GENERAL.—In order to meet the requirements of this paragraph, the table prescribed by the Secretary—

"(i) shall provide a credit at the rate of $60 for each 1 million Btu's of annual energy savings per residential unit, and

"(ii) shall set forth different amounts of credit for different ratios of solar collection area to house heating load and for residential units located in different areas of the United States.

"(B) ANNUAL ENERGY SAVINGS PER RESIDENTIAL UNIT.—For purposes of subparagraph (A), the annual energy saving for a residential unit shall be the amount by which the number of Btu's of nonsolar energy required to provide heat to a reference house for a calendar year exceeds the number of Btu's of nonsolar energy required to heat a similar house, in the same or a similar location, which uses an incorporated passive solar energy system for a calendar year.

"(C) REFERENCE HOUSE.—For purposes of subparagraph (B), the term 'reference house' means a residential unit with 1,500 square feet of

habitable floor space and a heating load of 7.5 Btu's per square foot per degree day.

"(D) HEATING LOAD.—For purposes of subparagraph (C), the term 'heating load' means the product of the number of square feet of habitable floor space of a residential unit multiplied by the appropriate insulation factor, set forth in the table prescribed by the Secretary under paragraph (1)(B), for that unit.

"(e) TERMINATION.—The credit allowable by subsection (a) shall not be allowed with respect to a residential unit the construction of which is completed after December 31, 1986.".

(b) CLERICAL AMENDMENTS.—

(1) The table of sections for subpart A of part IV of subchapter A of chapter 1 of such Code is amended by inserting immediately after the item relating to section 44E the following new item:

"Sec. 44F. Credit for passive solar residential construction.".

(2) Section 6096(b) of such Code (relating to designation of income tax payments to Presidential Election Campaign Fund) is amended by striking out "and 44E" and inserting "44E, and 44F".

(c) EFFECTIVE DATE.—The amendments made by this section shall apply to taxable years ending after September 30, 1981.

II

97TH CONGRESS
1ST SESSION

S. 725

To amend the Internal Revenue Code of 1954 with respect to the treatment of certain shale property as energy property for purposes of the energy investment credit.

IN THE SENATE OF THE UNITED STATES

MARCH 17 (legislative day, FEBRUARY 16), 1981

Mr. WALLOP (for himself, Mr. GARN, Mr. MATSUNAGA, and Mr. SIMPSON) introduced the following bill; which was read twice and referred to the Committee on Finance

---

A BILL

To amend the Internal Revenue Code of 1954 with respect to the treatment of certain shale property as energy property for purposes of the energy investment credit.

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

SECTION 1. TREATMENT OF CERTAIN SHALE OIL PROPERTY AS ENERGY PROPERTY.

(a) IN GENERAL.—Paragraph (7) of section 48(l) of the Internal Revenue Code of 1954 (relating to energy property) is amended to read as follows:

"(7) SHALE OIL PROPERTY.—The term 'shale oil property' means property used—

"(A) in the mining of oil-bearing shale rock, or

"(B) in the production or extraction of oil from oil-bearing shale rock, including property used for hydrogenation (or for a similar process subsequent to retorting), but not including property used for refining.".

(b) CONFORMING AMENDMENT.—Clause (v) of section 48(l)(2)(A) of such Code (relating to definition of energy property) is amended by striking out "equipment" and inserting in lieu thereof "property".

SEC. 2. EFFECTIVE DATE.

The amendments made by section 1 shall apply to periods after December 31, 1980, under rules similar to the rules of section 48(m) of the Internal Revenue Code of 1954.

DESCRIPTION OF MISCELLANEOUS ENERGY TAX BILLS
(S. 307, S. 448, S. 498, and S. 725)

ON JUNE 8, 1981

PREPARED FOR THE USE OF THE

COMMITTEE ON FINANCE

BY THE STAFF OF THE

JOINT COMMITTEE ON TAXATION

INTRODUCTION

The bills described in this pamphlet have been scheduled for a public hearing on June 8, 1981, by the Subcommittee on Energy and Agricultural Taxation of the Senate Finance Committee.

There are four bills scheduled for the hearing: S. 307 (relating to windfall profit tax exemptions for oil production of certain residential child care agencies); S. 448 (relating to fuels tax exemption procedure for intercity, local or school buses); S. 498 (relating to credits for passive solar residential construction); and S. 725 (relating to the energy credit definition of shale oil equipment).

The first part of this pamphlet contains a summary of the bills. This part is followed by a more detailed description of each bill, including present law, issues involved, an explanation of the provisions of each bill, their effective dates, and estimated revenue effects.

I. SUMMARY

1. S. 307—Senators Baker, Cochran, Boren, Bentsen, Long, Tower, Wallop, Symms, et al.

Windfall Profit Tax Exemption for Oil Production of Residential Child Care Agencies

Under present law, oil production attributable to "qualified charitable interests" of specified charitable educational organizations and medical facilities is exempt from the windfall profit tax (Code sec. 4994(b)). Oil production attributable to an interest held by an organization for the residential placement, care, or treatment of delinquent, dependent, neglected, or handicapped children generally would not qualify for this exemption.

The bill would exempt from the windfall profit tax oil production attributable to certain interests held by residential child care agencies. The bill would be effective for calendar quarters beginning after December 31, 1980.

2. S. 448—Senator Matsunaga

Fuels Tax Exemption Procedure for Intercity, Local or School Buses

Present law allows exemptions from the gasoline, diesel, and special fuels excise taxes for gasoline, diesel, and special fuels used in certain intercity, local, and school buses. These exemptions are implemented by allowing either an income tax credit, or a direct payment, equal to the fuels taxes paid.

The bill would allow tax-free sales of otherwise taxable gasoline, diesel, and special fuels for use in certain intercity, local, and school buses so long as specified advance registration procedures were satisfied. The bill would be effective on January 1, 1982.

3. S. 498—Senators Hart, Percy, Bradley, Baucus, Moynihan, Packwood, et al.

Builder's Tax Credit for Passive Solar Residential Construction

Present law allows a residential energy tax credit equal to 40 percent of the first $10,000 of a taxpayer's expenditures for certain solar, geothermal, and wind equipment. This credit is not available to builders of homes held for sale, or with respect to expenditures for certain passive solar features.

The bill would allow builders a tax credit with respect to certain new residential units that use specified passive solar construction

techniques. The bill would be effective for taxable years ending after Sepember 30, 1981, and would allow a credit with respect to units completed after that date and before January 1, 1987.

4. S. 725—Senators Wallop, Armstrong, Matsunaga, Symms, et al.

Energy Credit Definition of Shale Oil Equipment

In addition to the generally applicable 10-percent investment tax credit, the Energy Tax Act of 1978 provided a 10-percent energy investment credit for shale oil equipment (Code sec. 48(l)(7). The latter credit applies to equipment for producing or extracting shale oil from shale rock, but generally does not apply to equipment for use in upgrading the extracted liquid.

The bill would expand the definition of shale oil equipment eligible for the energy investment tax credit to include equipment used to upgrade shale oil. The bill would apply to periods after December 31, 1980.

II. DESCRIPTION OF BILLS

1. S. 307—Senators Baker, Cochran, Boren, Bentsen, Long, Tower, Wallop, Symms, et al.

Windfall Profit Tax Exemption for Oil Production of Residential Child Care Agencies

Present law

Under present law, oil production attributable to certain interests ("qualified charitable interests") of specified charitable educational organizations and medical facilities is exempt from the crude oil windfall profit tax (Code sec. 4994(b)). For this purpose, the term "qualified charitable interest" means an economic interest in crude oil which meets specified statutory requirements. These requirements generally can be satisfied, in part, with respect to interests either held directly by an organization, or interests held indirectly for the benefit of an organization. In the former case, such an interest must be held directly by a charitable educational organization or medical facility (as described in Code sec. 170(b)(1)(A)(ii), (iii), or (iv) and sec. 170(c)(2)). In instances where the interest is not held directly by such a qualifying organization, an interest may be held only by a church (as described in Code secs. 170(b)(1)(A)(i) and 170(c)(2)) only if it is held for the benefit of an otherwise qualifying educational organization or medical facility. However, oil production attributable to an economic interest held by a church for the benefit of an otherwise qualifying educational organization or medical facility is exempt only if all the proceeds from the interest were dedicated to the educational or medical charity on January 21, 1980, and at all times thereafter before the last day of the calendar quarter. In all instances, an exemption is available only with respect to oil attributable to otherwise qualifying interests which were held by the organization on January 21, 1980, and at all times thereafter before the last day of the calendar quarter.

For purposes of the exemption, a medical facility is defined as an organization the principal purpose or function of which is the providing of medical or hospital care or medical education or, if in conjunction with a hospital, medical research (see Code sec. 170(b)(1)(A)(iii)). For purposes of the exemption, an educational institution is an educational organization that normally maintains a regular faculty and curriculum and normally has a regularly enrolled body of pupils or students in attendance at the place where its educational activities are regularly carried on (see Code sec. 170(b)(1)(A)(ii)). An organization that normally receives a substantial part of its support from the United States or any State or political subdivision thereof or from direct or indirect contributions from the general public, and that is organized and operated exclusively to receive, hold, invest, and administer property and to make expenditures to or for the benefit of a

public college or university is also considered to be an educational institution (see Code sec. 170(b)(1)(A)(iv)).

An organization for the residential placement, care, or treatment of delinquent, dependent, neglected, or handicapped children generally would not qualify as an educational organization or medical facility for purposes of this exemption.

Except to the extent that oil production is attributable to a royalty or an overriding royalty (Code sec. 512(b)(2)), income from a qualified charitable interest is subject to the unrelated business income tax (Code secs. 511–513).

Issue

The bill raises several issues relating to an exemption from the windfall profit tax for oil production attributable to certain charitable organizations. The initial issue presented by the bill is whether the current exemption for qualified charitable interests should be expanded and, if so, whether it should be expanded to include oil production attributable to interests held directly by entities which are residential child care agencies or held by other organizations described in Code sec. 170(c)(2) (relating to certain charitable entities) for the benefit of a residential child care agency.

Another issue presented by the bill is whether an expansion of the present law exemption should apply, in instances where the oil interest is held by another, only if all the proceeds from the interest were dedicated on January 21, 1980, and at all times thereafter before the last day of the calendar quarter, to a qualifying residential child care agency.

Explanation of the bill

The bill would exempt from the windfall profit tax oil production attributable to an economic interest held by either a "residential child care agency" or a charitable corporation, trust, community chest, fund, or foundation (described in Code sec. 170(c)(2)) for the benefit of a "residential child care agency." For purposes of this exemption, the term "residential child care agency" would mean a charitable corporation, trust, community chest, fund, or foundation (described in Code sec. 170(c)(2)) which is organized and operated primarily for the residential placement, care, or treatment of delinquent, dependent, neglected, or handicapped children.

The exemption would apply only to production attributable to an interest which was held on January 21, 1980, by a residential child care agency or by a qualifying organization for the benefit of such an agency. The bill would not require a dedication of the proceeds from an interest to the benefit of a residential child care agency when the interest is held by another organization.

Effective date

The provisions of the bill would be effective for calendar quarters beginning after December 31, 1980.

Revenue effect

An estimate on this bill is not available currently.

2. S. 448—Senator Matsunaga

Fuels Tax Exemption Procedure for Intercity, Local or School Buses

Present law

Present law imposes an excise tax of 4 cents per gallon on gasoline sold by any producer or importer (Code sec. 4081(a)).[1] For purposes of this tax, the term "producer" includes refiners, compounders, blenders, or wholesale distributors, and dealers who sell gasoline exclusively to other gasoline producers (Code sec. 4082(a)). Gasoline sold for certain specified purposes is exempt from the excise tax. One such exempt purpose is for use in an intercity, local, or school bus (Code sec. 6421(b)).

Present law also imposes an excise tax of 4 cents per gallon on diesel fuel used in a diesel-powered highway vehicle[2] (Code sec. 4041(a)). A tax at the same rate is imposed on special motor fuels[3] used as fuel in a motor vehicle or motorboat (Code sec. 4041(b)). As in the case of the tax on gasoline, exemptions are provided for diesel fuel and special motor fuels used for certain specified purposes, including use in an intercity, local, or school bus (Code sec. 6427(b)).

For purposes of these taxes, intercity and local buses are defined as buses offering transportation to the public along regularly scheduled routes or buses with a seating capacity of at least 20 adults (other than the driver). School buses are defined as such when they are engaged in transportation of employees and students of organizations maintaining a regular faculty and curriculum and having a regularly enrolled student body at the place where its educational activities are carried on (Code secs. 4221(d)(7) and 6427(b)).

Under present law, exemption from the gasoline tax generally can be claimed at the time of sale if the sale is for an exempt purpose, and the parties to the sale have registered in accordance with Treasury regulations (Code sec. 4222(a)). Likewise, in some cases under present law (e.g., for use on an aircraft), the exemption from the diesel fuel and special motor fuels taxes may be claimed at the time the sale occurs if the parties to the sale have registered, in accordance with Treasury regulations, as eligible for exempt sales (Code sec. 4041(i)). There also are provisions in present law that permit tax-free sales pursuant to

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[1] Beginning on October 1, 1984, the gasoline excise tax rate is scheduled to be reduced to 1½ cents per gallon (Code sec. 4081(b)).

[2] A lower 2 cent per gallon tax is imposed on diesel fuel used in a diesel-powered highway vehicle not required under State law to be registered for highway use or in such a vehicle owned by the U.S. and not used on the highway.

[3] Special motor fuels are defined as "benzol, benzene, naphtha, liquefied petroleum gas, casinghead and natural gasoline, or any other liquid (other than kerosene, gas oil, or any product taxable [under another Code section as gasoline or as diesel fuel])" (Code sec. 4041(b)). Beginning on October 1, 1984, the diesel fuel and special motor fuels excise tax rates are scheduled to be reduced to 1½ cents per gallon (Code sec. 4041(e)).

similar registrations for exemption from other excise taxes, including sales of tires, inner tubes, parts, and accessories used on intercity, local, and school buses (Code secs. 4221(e)(5) and 4222(a)).

In the case of uses for which exempt sales are permitted, if an excise tax is paid nevertheless, present law permits the taxpayer to recover that tax by means of an income tax credit or a direct payment in the amount of tax imposed (see, e.g., Code secs. 39, 6416, and 6421). There are thus two means by which the exemption from tax may be accomplished in these cases.

Under present law, however, gasoline, diesel fuel, and special motor fuels may not be sold tax-free pursuant to a registration procedure when the fuels are used in an intercity, local, or school bus. Therefore, the income tax credit and direct payment procedures are the available means of implementing the tax exemption in these cases.

Issue

The issue presented by the bill is whether gasoline, diesel fuel, and special motor fuels for use in an intercity, local, or school bus should be permitted to be sold free of tax rather than being sold tax-paid with the taxpayer subsequently claiming an income tax credit or direct payment for the amount of tax imposed.

Explanation of the bill

The bill would permit sales of gasoline, diesel fuel, and special motor fuels for use in an intercity, local or school bus to be made on a tax-free basis if the parties to the sale were registered with the Treasury Department. The bill would adopt the present law definitions of intercity bus, local bus, and school bus.

Effective date

The provisions of the bill would be effective on January 1, 1982.

Revenue effect

It is estimated that the bill would reduce fiscal year 1982 receipts by $9 million.

3. S. 498—Senators Hart, Percy, Bradley, Baucus, Moynihan, Packwood, et al.

Builder's Tax Credit for Passive Solar Residential Construction

Present law

Residential energy tax credit

Present law allows a residential energy tax credit equal to 40 percent of so much of the taxpayer's "qualified renewable energy source expenditures" as do not exceed $10,000 (Code sec. 44C(b)(2)). For this purpose, the term "renewable energy source expenditure" means expenditures made by the taxpayer on or after April 20, 1977, for "renewable energy source property" installed in connection with the taxpayer's principal residence. Renewable energy source expenditures include labor costs properly allocable to the onsite preparation, assembly, or original installation of renewable energy source property, as well as certain expenditures for an onsite well drilled for any geothermal deposit. Renewable energy source expenditures do not include any expenditures properly allocable to a swimming pool used as a storage medium or to any other energy storage medium which has a primary function other than energy storage. Thus, while renewable energy source expenditures include costs for both active and passive solar systems, Treasury regulations specify that expenditures for dual function components of a passive solar system are not eligible for the credit (Treas. Regs. 1.44C–2(f)(3)). However, expenditures for a solar panel installed as a roof do not fail to qualify for the credit solely because the panel constitutes a structural component of the dwelling.

The term "renewable energy source property" means property which, when installed in connection with a dwelling in the U.S., transmits or uses (1) solar energy, energy derived from geothermal deposits, or any other form of renewable energy specified in Treasury regulations, for heating or cooling the dwelling or for providing hot water or electricity for use within the dwelling, or (2) wind energy for nonbusiness residential purposes. In addition, the original use of "renewable energy source property" must begin with the taxpayer. The property reasonably must be expected to remain in operation for at least 5 years, and it must meet specified performance and quality standards.

In the case of a newly constructed or reconstructed dwelling, renewable energy source expenditures are treated as made when the original use of the constructed or reconstructed dwelling begins. In addition, in the case of newly constructed residences, the original purchaser may claim the credit, when original use of the residence begins, for separately stated renewable energy source expenditures.

Property is not eligible for the credit to the extent it is financed with funds provided under a government program a principal purpose

of which is to provide subsidized financing for projects designed to conserve or produce energy (Code sec. 44C(c)(10)(A)).

Solar Bank

Title V of the Energy Security Act of 1980 (Pub. L. 96-294) established the Solar Energy and Energy Conservation Bank (the "Bank") as part of the Department of Housing and Urban Development. The purpose of the Bank, which is to remain in existence until October 1987, is to encourage energy conservation, to promote the use of solar energy, and to contribute to the reduction of U.S. dependence on foreign energy sources. The Bank is authorized to provide funds to lending institutions, utilities, and local governments to subsidize loans and grants for the installation of energy conservation and solar energy improvements in single family and multifamily residences, and agricultural and commercial buildings.

Initially, $1 billion was authorized to fund the Bank's activities through fiscal year 1984. The fiscal year 1981 appropriation provided $121 million, and the Carter Administration proposed to appropriate $125 million for fiscal year 1982. The Reagan Administration proposed rescinding the 1981 appropriation and withdrew the request for $125 million for 1982. The Administration has stated its intention to rely on rising energy prices to encourage all households to reduce energy consumption and make conservation investments. Regulations will not be issued, and no loan subsidies will be disbursed.

In its reconciliation instructions for fiscal year 1981, the Senate Budget Committee recommended rescission of the $121 million appropriation for 1981; the House Budget Committee's instructions would rescind all but $20 million.

The Senate Appropriations Committee has acted to rescind the entire $1 billion. The House Appropriations Committee has acted to transfer $875 million to the Strategic Petroleum Reserve.

Background on passive solar construction

A passive solar energy system is one in which the energy present in sunlight is used to heat a building by naturally capturing that energy in the structure of the building and distributing it as heat by means of radiation, conduction or convection. Separate collectors, storage systems, or mechanical devices are not necessarily required, nor is it necessary to introduce energy inputs from outside the immediate environment.

Passive systems generally can be classified as direct gain, indirect gain, or isolated gain systems. The most common of these types of systems are described below. The choice between different systems may depend on topography, esthetics, and heating and cooling needs.

In a direct gain passive solar energy system, sunlight enters and directly heats the living area. If the living space is constructed of materials that absorb and store this heat (e.g., masonry floors and walls) or if a storage mass is introduced to the living area, the collected heat is stored and liberated to maintain the living area's temperature when the sun is not present. These systems can be used in most environments.

In a system that uses indirect gain, the thermal storage mass is positioned between the sun and the living space. Sunlight warms the

mass which then gradually releases the heat to the living space. The storage masses used in such systems typically are either storage walls or roof ponds. In both cases the storage mass must be enclosed, at least in the absence of sunlight, so that the mass does not lose its heat to the outdoors. These systems are attractive in retrofitting existing masonry structures, in using attached greenhouse applications or in locations where summer cooling is an important consideration.

Isolated gain systems are those in which the collector and storage mass are located apart from the living space. Heat is carried to the living space as needed. These systems are attractive particularly where constant heat is not required.

Issues

The primary issue presented by the bill is whether a tax credit should be provided to builders of new residential units that utilize passive solar construction techniques. Additional issues include the definition of a passive solar system, whether the amount of any credit should depend on energy saving potential or on incremental costs, whether a credit should be available as to reconstructed residential units, and whether rules are needed to prevent both a builder and a resident from claiming a credit with respect to expenditures for the same items. Another issue presented by the bill is whether a credit should be available only as to residential construction which satisfies specified requirements relating to minimum daily exposure to the sun, and whether such exposure should be guaranteed by covenant or zoning law.

Explanation of the bill

The bill would allow a tax credit to builders of new residential units that use passive solar construction techniques. The amount of the credit would depend on the estimated energy savings accomplished by use of the passive solar technique, but could not exceed $2,000 per residential unit. A qualified residential unit would be a unit designed for residential use and located in the United States. Units would have to be part of a building containing four or fewer units, and completed after September 30, 1981, and before January 1, 1987. All units would have to be ready for occupancy before the later date.

To qualify for the credit, a new unit must contain a "passive solar energy system." Such a system contains five recognizable elements. The first element is a "solar collection area." This is defined as an expanse of transparent or translucent material located on the south side of the structure (within 30 degrees) and which may be moved to allow the sun to warm the absorber (see below) directly. This defintion is intended to include windows and skylights; however, the requirement that these items be movable could disqualify various methods of passive solar construction.

The second element of a passive solar system is an "absorber." An absorber is a hard surface exposed to the sun which absorbs solar radiation and transmits the resulting heat to a "storage mass" (see below). Typical examples of absorbers would include the surfaces of slate floors, stone walls, and enclosed thermal ponds. Since a hard surface is required, open surface or PVC enclosed thermal roof ponds, swimming pool surfaces, and carpeted areas would not qualify as absorbers.

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The third required element of a passive solar system is a "storage mass." A "storage mass" is defined as a dense, heavy material that receives and holds heat from the absorber and later releases it to the interior of the structure. Such a mass must be of sufficient volume, depth and thermal capacity to store and deliver adequate amounts of solar heat for the structure. The bill also would require proper location of the storage mass and that it have an area of directly irradiated material equal to or greater than the solar collection area. Examples of dense, heavy materials which, if properly applied, could have sufficient thermal capacity, include water, eutectic salts in aqueous solutions, stone, and masonry. The requirement that the storage mass be irradiated adequately may be related more directly to the absorber than to the mass. The bill would not restrict the volume of the thermal mass, and thus could apply to an inefficient or ineffective mass (due to oversizing).

The fourth requirement of a passive system is the presence of a "heat distribution method." Such methods would include the direct release of heat into the structure's habitable areas and the movement of heat from the mass by convection through airflow paths or ducts. Fans or pumps of 1 horsepower or less could be used in distributing heat. (Most whole house and attic fans, for example, are less than ⅓ horsepower.)

The final required element of a passive solar energy system is a "heat regulation device." Such devices are (1) shading or venting mechanisms to control the amount of heat admitted through the collection area, and (2) nighttime insulation (or its equivalent) to control the heat loss from the building. Examples of shading devices would include deciduous trees, overhanging rooflines and shutters. Examples of nighttime insulation (or the equivalent) would include shutters, thermal windows, and insulating curtains.

Although adequate insulation generally is considered to be an essential element of passive solar design, it is not directly required by the bill. However, the amount of the credit would depend on the effectiveness of the home's insulation.

If a particular home qualifies for the credit, the builder would calculate the credit as follows. First, the heating load of the house would be determined by multiplying the floor area of the house by one of eight insulation factors determined using a table prescribed by the Treasury. These insulation factors would be based on the level of insulation in floors, walls, and ceilings and on the number of panes of glass in each window (i.e., single, double or triple glazing). The factors would range in eight steps from an uninsulated house to a house having the maximum feasible insulation. The heating load so calculated would not depend on the volume of the house. For example, two houses with the same square footage and insulation would have equal heating loads even if one had 7-foot ceilings and the other had 12-foot ceilings.

Once the heating load is known, the builder would calculate the passive capacity of the house by dividing the heating load by the passive solar collection area. In determining the passive capacity of the home, the builder would not need to consider glazed areas that do not admit direct sunlight or the thermal capacity of the storage mass.

The third step in calculating the credit would be to use the passive capacity and location of the home to locate the appropriate credit

on a solar construction credit table prescribed by the Treasury. The solar construction table would be based on the estimated annual energy savings of the home when compared to a nonsolar house of similar location and heating load. The credit would be at the rate of $60 per million Btu's saved annually up to a maximum of $2,000 per unit. The table would be developed in consultation with the Department of Energy and the Department of Housing and Urban Affairs.

If two or more builders own interests in a qualified residential unit, the credit would be apportioned among them in proportion to their respective ownership interests.

Effective date

The provisions of the bill would be effective for taxable years ending after September 30, 1981, and would allow a credit with respect to units completed after that date and before January 1, 1987.

Revenue effect

It is estimated that the bill would reduce budget receipts by $7 million in fiscal year 1982, $24 million in 1983, $44 million in 1984, $70 million in 1985, $107 million in 1986 and $117 million in 1987.

Prior Congressional consideration

During consideration of the Crude Oil Windfall Profit Tax Act of 1980, a similar provision was adopted in a Senate floor amendment. The amendment was not agreed to in conference.

4. S. 725—Senators Wallop, Armstrong, Matsunaga, Symms, et al.

Definition of Shale Oil Equipment for the Energy Investment Credit

Background

Oil shale is a sedimentary rock which contains various amounts of a solid organic material called kerogen. When heated to about 900 degrees Fahrenheit, oil shale generally yields hydrocarbons and a variety of solid by-products. The hydrocarbons, or shale oil, can be processed into liquid and gaseous petroleum products, including middle distillate fuels and gasoline. Shale oil generally is considered to be a synthetic fuel.

High grade oil shales, i.e., those shale rocks containing at least 25 gallons of oil equivalent per ton, are located in Colorado, Utah, and Wyoming. Leaner oil shales are located in ten eastern and middle western States.

Oil shale can be processed into liquid hydrocarbons by any of a variety of above- or below-ground methods. Above-ground processes generally are preceded by conventional surface or deep mining techniques, and involve crushing and retorting, i.e., heating, the oil shale rock. Below-ground processing generally involves underground, or *in situ*, retorting, and ordinarily does not require extensive pre-retort mining. However, below-ground processing involves underground fracturing (by explosives, microwaves, or other combustion) and retorting. The liquid hydrocarbons produced then are brought to the surface by conventional drilling.

When extracted or produced from the oil shale, shale oil is a viscous, and frequently impure, liquid. As such, it is similar to heavy crude oil and liquid hydrocarbons produced from tar sands. Due, in part, to viscosity and impurity, these fuels may require hydrocracking or hydrogenation. Hydrogenation (a post-retort process) generally is considered to be a component of refining, and involves the reaction (or cracking) of a pressurized liquid fuel with hydrogen, while in the presence of a catalyst. Hydrogenation processes and equipment typically are used in (1) refining heavy crude oil, (2) producing isobutane (as a refining by-product) for use in balancing feed in a refinery's alkylation plant, (3) producing a range of products with a more desirable average gravity than the liquid input, and (4) upgrading viscous hydrocarbons into pipeline quality liquids.

Present law incentives

Tax credits

Equipment for producing, extracting, processing, transporting, and refining shale oil generally qualifies for the 10-percent investment tax credit (Code sec. 48(a)(1)). In addition, the Energy Tax Act of 1978 provided a 10-percent energy investment tax credit for

certain "shale oil equipment" (Code sec. 48(l)(7)). For this purpose, the term "shale oil equipment" means equipment for producing or extracting shale oil from oil-bearing shale rock. The term, however, specifically excludes equipment for hydrogenation, refining, and other processes subsequent to retorting. The term "shale oil equipment" includes qualifying equipment without regard to whether it is used in an above-ground or *in situ* process. In the latter instance, shale oil equipment includes equipment used to create the underground cavity. In either case, equipment for supplying water and for treating and handling spent oil shale rock is included in the definition of shale oil equipment.

The energy investment credit generally is available for property placed in service and expenditures incurred through December 31, 1982. In addition, the energy investment credit for shale oil equipment is available after 1982 and before 1991 where the following specified affirmative commitments are undertaken with respect to qualified property that involves long-term projects of two years or more: (1) complete all engineering studies for the project, and apply for all Federal, State, and local environmental and construction permits necessary for commencement of construction, prior to 1983 and (2) binding contracts have been made prior to 1986 to acquire or construct at least 50 percent of all equipment that is especially designed for the project (Code sec. 46(a)(2)(C)(iii)).

Depletion

Under present law, a deduction for percentage depletion is allowed for 15 percent of the gross income from the extraction of oil shale. For this purpose, gross income includes any increment in value through the retorting stage, but does not include any increment in value attributable to hydrogenation, refining, or any other process subsequent to retorting (Code secs. 613(b)(2)(B) and (c)(4)(H)).

Production tax credit

Shale oil producers are allowed an income tax credit for the production of shale oil (Code sec. 44D(c)(1)(A)). The credit is equal to $3 a barrel, and phases out as the annual average wellhead price of uncontrolled domestic oil rises from $23.50 to $29.50 a barrel. Both the credit and the phaseout range are adjusted for post-1979 inflation. Due to the application of the oil-based phaseout, the credit was not available with respect to production in 1980.

Federal synthetic fuels assistance

Title I of the Energy Security Act (Pub. L. 96-294) authorized the United States Synthetic Fuels Corporation (SFC) to award "financial assistance" to qualified concerns. For this purpose, the term "financial assistance" means loans, loan guarantees, price guarantees, purchase agreements, joint ventures, certain cost-sharing grants, and certain synthetic fuel project acquisitions and lease backs. A synthetic fuel project is a facility which uses an integrated process or processes for the purpose of commercial production of synthetic fuel, and includes shale projects. The SFC is slated to assume DOE's alternative fuel funds as of the earlier of June 30 or whenever the SFC is declared by the President to be fully operational.

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DOE funds have been made available for a variety of purposes relating to the production of shale oil. DOE contract funds have been awarded for feasibility studies relating to shale oil upgrading and refining. For example, the Gary Energy Corp. has received such a contract award for its crude oil refinery site at Fruita, Colorado.

State laws

Some States also provide tax incentives for producers to acquire equipment for converting oil shale into a gaseous or liquid fuel. For example, Indiana allows producers, through 1989, to take deductions with respect to tangible shale oil conversion property. The deduction is based on the property's assessed value, and generally equals 95 percent of that value. The Indiana provision was intended to benefit the two shale oil projects currently planned for that State by the Phillips Petroleum Co. and Southern Indiana Shale Oil Co.

Similarly, the Colorado severance tax provides an incentive for the production of shale oil by allowing a reduction in the value of oil shale for certain costs. For this purpose, the value of shale oil is determined by reducing the first sales price by all costs for equipment, machinery, fragmenting, crushing, conveying, beneficiating, pyrolysis, retorting, refining, transporting, and royalty payments. The severance tax also exempts the greater of the first 15,000 tons per day of oil shale production or 10,000 barrels per day of shale oil. A severance tax credit of 25 percent of the tax is allowed with respect to shale oil produced from *in situ* methods. In addition, the severance tax generally provides a credit for up to 5 years of taxes for certain local government tax contributions.

Issue

An issue presented by the bill is whether the definition of shale oil equipment which is eligible for the additional energy investment tax credit should be clarified as to property for mining oil shale. Another issue is whether the definition should be extended to include property used for hydrogenation (or a similar process subsequent to retorting). A subsidiary issue involved is whether an extension of the definition of shale oil equipment should be limited to hydrogenation equipment used exclusively to process shale oil prior to its removal from the production site, introduction into a pipeline, or refining.

Explanation of the bill

The bill would extend the definition of shale oil equipment for purposes of the energy investment tax credit to include equipment used in hydrogenation or similar processes subsequent to retorting. However, the bill would not expand the definition of shale oil equipment to equipment used to refine shale oil.

Effective date

The provisions of the bill would apply to periods after December 31, 1980.

Revenue effect

It is estimated that the bill would reduce fiscal year budget receipts by less than $5 million in 1981, $10 million in 1982, $32 million in 1983, $52 million in 1984, $74 million in 1985, and $91 million in 1986.

Prior Congressional consideration

During the 94th Congress, Title XX of the Tax Reform Act of 1976, as reported by the Senate Finance Committee and passed by the Senate (S. Rept. No. 94–938, 94th Cong., 2d Sess. 568–569 (1976)), and H.R. 6860, as reported by the Senate Finance Committee, would have allowed an increased investment credit of 12 percent for shale oil conversion equipment. The credit would have applied to equipment for purifying kerogen. Title XX was not included in the Tax Reform Act of 1976.

Senator WALLOP [chairman, presiding]. The subcommittee hearing will come to order.

The original witness was to have been Senator Hart who has asked that he be excused. We will submit the testimony for the record.

[The statements of Senators Hart and Matsunaga follow:]

Gary Hart

TESTIMONY BY SENATOR GARY HART
ON S. 498, THE PASSIVE SOLAR TAX CREDIT BEFORE THE
SENATE FINANCE SUBCOMMITTEE ON ENERGY AND AGRICULTURE TAXATION
JUNE 8, 1981

MR. CHAIRMAN, I APPRECIATE THE OPPORTUNITY TO TESTIFY THIS MORNING ON LEGISLATION TO PROVIDE A PERFORMANCE-BASED TAX CREDIT TO BUILDERS WHO INCORPORATE PASSIVE SOLAR ENERGY SYSTEMS IN NEW HOMES. THE BILL I HAVE INTRODUCED, S. 498, IS COSPONSORED BY 23 MEMBERS OF THE SENATE, INCLUDING THE RANKING MINORITY MEMBER OF THIS SUBCOMMITTEE, SENATOR BRADLEY. I COMMEND YOU FOR THE SUPPORT YOU HAVE SHOWN FOR THIS BILL IN THE PAST AND FOR CONVENING THIS HEARING TO BUILD A LEGISLATIVE RECORD ON PASSIVE SOLAR TAX INCENTIVES.

AS YOU KNOW, IN DECEMBER 1979, THE SENATE OVERWHELMINGLY ENDORSED THIS LEGISLATION, ADOPTING IT AS AN AMENDMENT TO THE WINDFALL PROFITS TAX BILL BY A VOTE OF 82 TO 1. UNFORTUNATELY, IT WAS NOT PART OF THE COMPROMISE WHICH ULTIMATELY EMERGED FROM THE HOUSE-SENATE CONFERENCE ON THAT BILL. SINCE THAT TIME, HOWEVER, SUPPORT IN THE HOUSE OF REPRESENTATIVES HAS INCREASED DRAMATICALLY. LAST YEAR, THE WAYS AND MEANS COMMITTEE HELD EXTENSIVE HEARINGS ON A SIMILAR BILL INTRODUCED BY CONGRESSMEN HEFTEL AND FOWLER, AND THIS YEAR, THAT BILL HAS BEEN REINTRODUCED WITH MORE THAN 135 COSPONSORS. I AM CONFIDENT, THEREFORE, THAT WITH THE SUPPORT OF THIS COMMITTEE, CONGRESS CAN ENACT A PASSIVE SOLAR TAX CREDIT IN THE VERY NEAR FUTURE.

MR. CHAIRMAN, THE SOLID, GROWING SUPPORT FOR THIS BILL IS WELL-FOUNDED. A BUILDERS' PASSIVE SOLAR TAX CREDIT IS A SOUND FEDERAL INVESTMENT. IT IS GOOD ENERGY POLICY. IT IS GOOD ECONOMIC POLICY AND A PERFORMANCE-BASED TAX CREDIT IS HIGHLY EFFECTIVE, BUT VERY INEXPENSIVE TAX POLICY.

PASSIVE SOLAR SYSTEMS RELY ON ENERGY-EFFICIENT ARCHITECTUAL TECHNIQUES AND THE USE OF SPECIAL BUILDING MATERIALS, RATHER THAN MECHANICAL MEANS, TO MAKE MAXIMUM USE OF THE SUN'S ENERGY. SUCH TECHNIQUES ARE HARDLY NOVEL.

MORE THAN 400 YEARS AGO, THE CLIFF DWELLERS OF MESA VERDA IN WESTERN COLORADO MADE SIMPLE ADAPTATIONS TO CAPTURE AND STORE THE SUN'S ENERGY DURING THE CHILL WINTER MONTHS, AND DEFLECT THE SUN'S SCORCHING SUMMER RAYS.

TODAY, PASSIVE SOLAR SYSTEMS ARE STILL RELATIVELY SIMPLY, INEXPENSIVE AND JUST A MATTER OF COMMON SENSE. BASICALLY, THEY INVOLVE THE USE OF GLASS, HEAVY CONSTRUCTION MATERIALS AND INSULATION TO COLLECT, STORE AND DISTRIBUTE ENERGY WITH MINIMAL DEPENDENCE ON MECHANICAL EQUIPMENT. FOR EXAMPLE, NEW HOMES SHOULD BE CONSTRUCTED WITH EAVES ON THEIR SOUTHERN EXPOSURE TO BLOCK THE DIRECT RAYS OF THE HIGH SUMMER SUN, WHILE PERMITTING DIRECT LIGHT FROM THE LOW WINTER SUN TO HEAT THE STRUCTURE. OTHER PASSIVE SOLAR FEATURES, SUCH AS TROMBE WALLS,CAPTURE AND STORE THE SUN'S HEAT DURING THE DAY, THEN RELEASE IT GRADUALLY DURING THE NIGHT.

MR. CHAIRMAN, A FEDERAL INCENTIVE FOR PASSIVE SOLAR CONSTRUCTION IS GOOD ENERGY POLICY. ABOUT SEVEN PERCENT OF OUR TOTAL ENERGY DIET IS CONSUMED BY HEATING AND COOLING OUR HOMES. A WELL-DESIGNED PASSIVE SOLAR SYSTEM CAN REDUCE THE HEATING LOAD OF A HOME BY AS MUCH AS 80 PERCENT.

WHILE OPPORTUNITIES EXIST TO ADD PASSIVE SOLAR FEATURES TO EXISTING HOMES, THE GREATEST POTENTIAL FOR ENERGY SAVINGS IS REALIZED WHEN PASSIVE SOLAR SYSTEMS ARE INCORPORATED AS PART OF THE ORIGINAL DESIGN OF NEW HOMES. SINCE THE NATION'S ENTIRE HOUSING STOCK IS EXPECTED TO BE REPLACED OVER THE COURSE OF THE NEXT 50 YEARS, IT IS VITALLY IMPORTANT THAT NEW HOUSING INCORPORATE PASSIVE SOLAR SYSTEMS, AS WELL AS OTHER ENERGY EFFICIENT FEATURES, IF FUTURE GENERATIONS ARE NOT TO BE LOCKED INTO INCREASINGLY COSTLY AND UNCERTAIN SUPPLIES OF ENERGY FOR RESIDENTIAL NEEDS.

MR. CHAIRMAN, A BUILDERS' PASSIVE SOLAR TAX CREDIT IS ALSO GOOD ECONOMIC POLICY. DESPITE THE COMPELLING ADVANTAGES OF PASSIVE SOLAR SYSTEMS, SEVERAL ECONOMIC AND INSTITUTIONAL CONSTRAINTS PREVENT BUILDERS FROM PRODUCING SIGNIFICANT NUMBERS OF PASSIVE SOLAR HOMES.

FOR EXAMPLE, WHILE PASSIVE SOLAR SYSTEMS GENERALLY ADD ONLY 3-5% TO THE COST OF A NEW HOME, MAKING THE SYSTEM COST-EFFECTIVE WITHIN JUST A FEW YEARS, THIS SAVINGS ACCRUES TO THE OWNER OF THE HOME RATHER THAN TO THE BUILDER. BUILDERS AND DEVELOPERS WHO MUST COMPETE IN AN EXTREMELY TIGHT CAPITAL MARKET, ARE UNDERSTANDABLY HESITANT TO MAKE ANY ADDITION TO A HOME WHICH WILL INCREASE ITS COST.

ADDITIONALLY, THE HOMEBUILDING INDUSTRY IN THIS COUNTRY IS DOMINATED BY SMALL BUSINESS WHICH CONSTRUCT ON THE AVERAGE ONLY NINE HOMES A YEAR. SMALL HOMEBUILDERS CANNOT AFFORD THE RISK THAT THE PUBLIC WILL NOT READILY ACCEPT -- OR CANNOT FIND THE FINANCIAL BACKING FOR -- PASSIVE SOLAR HOMES.

A BUILDER'S TAX CREDIT CAN COVER PART OF THIS RISK UNTIL AMERICANS HAVE HAD A CHANCE TO SEE THE BENEFITS OF PASSIVE SOLAR CONSTRUCTION, AND PASSIVE SOLAR HOMES HAVE PENETRATED THE VOLATILE RESIDENTIAL CONSTRUCTION MARKET. ONCE THIS OCCURS -- THIS BILL SPECIFICALLY LIMITS THE CREDIT TO FIVE YEARS -- A NORMAL DEMAND PULL WILL STIMULATE RAPID EXPANSION OF PASSIVE SOLAR HOMEBUILDING.

THIS BILL WILL HAVE OTHER, IMPORTANT ECONOMIC RAMIFICATIONS AS WELL. THE HOUSING INDUSTRY IS STILL SUFFERING FROM ITS WORST SLUMP ON RECORD. ENCOURAGING CONSTRUCTION OF ENERGY-EFFICIENT HOMES WILL BOOST THE HOMEBUILDING INDUSTRY, AND ENCOURAGE THE DEVELOPMENT OF INNOVATIVE PASSIVE SOLAR PRODUCTS AND DESIGNS.

FINALLY, AND MOST IMPORTANTLY, THE LEGISLATION BEFORE THIS SUBCOMMITTEE REPRESENTS GOOD TAX POLICY. IT HAS BEEN CAREFULLY DRAFTED TO PROVIDE THE CREDIT TO BUILDERS BASED ON THEIR EFFECTIVENESS IN REDUCING THE ENERGY LOAD OF THE HOME, RATHER THAN PROVIDING A CREDIT FOR A PERCENTAGE OF THE COST OF THE COMPONENTS OF A PASSIVE SOLAR SYSTEM. A DEFINITION OF WHAT CONSTITUTES A PASSIVE SOLAR HOME WAS CAREFULLY DEVELOPED WITH THE FULLEST POSSIBLE PARTICIPATION BY THE TREASURY DEPARTMENT AND THE INTERNAL REVENUE SERVICE. FOLLOWING THE ADOPTION OF THIS BILL IN 1979, AND AGAIN, DURING THE WAYS AND MEANS COMMITTEE HEARINGS LAST YEAR, THE TREASURY DEPARTMENT TESTIFIED THAT THE CREDIT IS SIMPLE TO COMPUTE AND ADMINISTER. THIS YEAR, THE JOINT TAX COMMITTEE HAS ESTIMATED THE REVENUE LOSS FOR FISCAL 1982 WOULD BE $7 MILLION, AND TOTAL REVENUE LOSS THROUGH 1987 WOULD BE $437 MILLION. AS THE SAVINGS POTENTIAL OF PASSIVE SOLAR DESIGN BECOMES BETTER KNOWN THROUGH THIS PROCESS, EVEN MORE HOMES WILL BE BUILT AT NO COST TO THE TREASURY.

MR. CHAIRMAN, CONGRESS SHOULD ENACT THE PASSIVE SOLAR TAX CREDIT THIS YEAR. SINCE I FIRST INTRODUCED THIS PROPOSAL IN 1979, IT HAS ENJOYED VERY STRONG BIPARTISAN SUPPORT IN BOTH THE SENATE AND AMONG A BROAD COALITION OF INDUSTRY, LABOR AND ENVIRONMENTAL GROUPS. THE REALITY OF THE NATION'S ENERGY SITUATION MAKES IT VITALLY IMPORTANT THAT NEW HOUSING INCORPORATE PASSIVE SOLAR SYSTEMS. THE PROPOSALS NOW PENDING BEFORE THE SENATE AND HOUSE PROVIDE IMPORTANT, INEXPENSIVE INCENTIVES TOWARD THAT GOAL. AGAIN, I COMMEND YOU FOR HOLDING THESE HEARINGS AND I LOOK FORWARD TO WORKING CLOSELY WITH YOU AND ALL OF OUR COLLEAGUES IN THE WEEKS AHEAD TO ENACT THIS LEGISLATION.

STATEMENT OF U. S. SENATOR SPARK M. MATSUNAGA
IN SUPPORT OF S. 448 BEFORE THE
SENATE FINANCE SUBCOMMITTEE ON ENERGY
AND AGRICULTURAL TAXATION
MONDAY, JUNE 8, 1981

MR. CHAIRMAN, THE BILL WHICH I INTRODUCED AND WHICH IS NOW BEFORE YOU, S. 448, WOULD SERVE A VERY SIMPLE PURPOSE. IT MERELY SEEKS TO CORRECT A PROBLEM POSED BY THE INTERNAL REVENUE CODE.

UNDER SECTION 6427(B) OF THE INTERNAL REVENUE CODE, AS AMENDED BY THE ENERGY TAX ACT OF 1978, BUS OWNERS AND/OR OPERATORS ENGAGED IN INTERCITY, CHARTER, LOCAL, AND SPECIAL OPERATIONS, ARE EXEMPT FROM THE FEDERAL EXCISE TAX ON DIESEL FUEL. HOWEVER, THE BUS OWNERS AND/OR OPERATORS ALTHOUGH EXEMPT, MUST FIRST PAY THE EXCISE TAX, AND SUBSEQUENTLY FILE FOR A REFUND. AFFECTED TAXPAYERS FROM ACROSS THE COUNTRY HAVE COMPLAINED ABOUT THIS CLUMSY, BURDENSOME PROCEDURE.

MR. CHAIRMAN, SOUND PUBLIC POLICY WOULD SEEM TO DICTATE THE EXPEDITIOUS ENACTMENT OF MY BILL, FOR IT WOULD END THE COMPLICATED AND BURDENSOME REQUIREMENT OF PAYING A FULLY

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REFUNDABLE TAX AND THEN FILING FOR ITS COMPLETE REFUND. OBVIOUSLY, THE REVENUE IMPACT OF MY BILL WOULD BE PRACTICALLY NIL; BUT ITS ENACTMENT WOULD SAVE BUS OWNERS AND/OR OPERATORS, AS WELL AS THE GOVERNMENT, FROM THE ADMINISTRATIVE EXPENSES INVOLVED IN PAYING THE TAX, COMPLETING THE REFUND APPLICATION, AND PROCESSING THE REFUNDS.

MR. CHAIRMAN, I APPRECIATE YOUR SCHEDULING THIS HEARING ON MY BILL AND URGE YOUR REPORTING IT FAVORABLY TO THE FULL COMMITTEE.

THANK YOU VERY MUCH.

Senator WALLOP. We will have a hearing this morning on S. 448, S. 307, S. 498 and S. 725.

We will begin, inasmuch as the first witness for the first bill, S. 448 is not here, I will ask if Mr. Nunnery, Dr. Morrison, and Arlin Ness are here.

If you will come forward, your statements will be inserted in the record in their entirety.

STATEMENT OF PAUL NUNNERY, EXECUTIVE DIRECTOR, BAPTIST CHILDREN'S VILLAGE, JACKSON, MISS.

Mr. NUNNERY. Mr. Chairman and members of the committee, I am Paul Nunnery, from Jackson, Miss.

I am the executive director of the Baptist Children's Village, a voluntary, nonprofit child care agency, which operates as an official agency of Mississippi Baptist Convention.

This means that our agency is, in effect, owned and operated by Baptist churches in the State of Mississippi, voluntarily cooperating as Mississippi Convention.

Our agency will be 100 years old before this decade is out. We now operate group residential care facilities in four different areas of the State: near Jackson and central Mississippi, in North Mississippi, in two areas in South Mississippi.

We also operate group care homes, foster boarding homes, adoptive services and family counseling ministries.

I, as executive director, I am the administrator of the agency, a position that I have held for almost 21 years.

As indicated, the Children's Village in Mississippi is a purely voluntary, not-for-profit enterprise.

Which is to say that our ministries and services are available to boys and girls who are bona fide residents of the State of Mississippi, without fee or tuition of any kind.

Our agency neither seeks nor accepts funding for operating or capital purposes from government at any level, beyond its tax-exempt status.

The facilities, programs, and services of this agency were established, and are maintained, by and through voluntary contributions, primarily from individuals who are contributing members of Baptist Churches in our State.

Virtually without exception, the voluntary supporters of our agency are motivated by philosophical, and even spiritual, considerations.

From professional affiliations in organizations such as child care executives of Southern Baptists and National Association of Homes for Children, it is known that hundreds of voluntary residential child care agencies and homes for residential placement, care or treatment of delinquent, dependent, neglected, and handicapped children exist in every area of the United States: performing their ministries and delivering their services, even as the Baptist Children's Village, financed solely and only by voluntary, private, gifts, and contributions.

It is submitted that agencies such as the Baptist Children's Village are "charitable organizations" in the purest sense of the term, but, unhappily, because they serve dependent, neglected and handicapped children, they are not included among the charitable organizations which are exempt from the windfall profits tax of crude oil.

Loss in income to the Baptist Children's Village attributable to its liability under this tax is crippling to our ministry in a comparable degree because of its smaller operating budget, several recently-acquired, larger, royalty interests and the dearth of contributor resources in our State.

A charitable organization operating a home for children must purchase, in our case from contributed income, every product and service which its wards require, including the salaries of staff employed as temporary and substitute parent-figures.

Perhaps the most graphic illustration of the impact of the windfall profits tax upon the Baptist Children's Village may be afforded by reference to an especially small royalty interest which it holds in production from one lease.

Were we free from the burden of the tax, the interest would have produced income for our agency, in the month of May, in the amount of $23.38.

Taxed, as we are, in tier 1, market level, at the highest rate of 70 percent, $16.38 of that income was deducted in payment of the windfall profits tax, leaving a net income in the amount of $7.

The importance of that $16.38 loss to our children might best be understood by remembering that at the Baptist Children's Village, it could feed one child for more than 10 days.

Income losses of this order, at exceedingly high rates, have occurred again and again, as our State has become more aggressive and successful in oil production and our agency, has, through voluntary gifts, acquired other and more substantial oil royalty interests.

It should be remembered that the not-for-profit child care agency, particularly the agency which exists solely and only from contributed income, can not replace income lost to taxes.

The loss can only be absorbed through curtailment of services, reductions in care—at a time when both inflation and the steadily increasing demand for quality child care make it difficult for agencies such as the Baptist Children's Village to survive.

Expanded and refined ministries and services, under these circumstances cannot even be considered. The children we seek to serve become the real losers.

At the Baptist Children's Village, as in the case of every voluntary child care agency known to us, virtually all of the boys and girls under care would very probably become public charges, were it not for the facilities, services, and programs we provide.

To an increasing degree, the children under our care come to us at an advanced age and with complicated social and emotional problems, frequently after living in a number of different placement agencies in the public sector which are financed, in whole or in part, with government funding.

It appears regrettable, to say the least, to note that the effect of the tax on such agencies as the Baptist Children's Village actually deprives children, in many instances, of the care they need, when one of the projected uses of receipts from this tax is said to be that of financing social programs for the needy.

Perhaps the most dangerous effect of the windfall profits tax on the Baptist Children's Village and other not-for-profit child care agencies similarly organized and situated, is the discouraging influence which our liability to the tax exerts upon prospective and potential donors and financial supporters.

In several instances in our own State, wherein our agency is being considered as a beneficiary for a gift or a bequest of a producing royalty interest, along with other church-related enterprises in our State which are exempt from this tax; such as a college and a hospital; the liability of the Baptist Children's Village to the tax, places us at a distinct disadvantage, to say the least.

Few prospective donors, motivated by the sort of philosophical and spiritual persuasions which are characteristic of our supporters, will choose child care instead of one of the church's other missions, when child care's income is subjected to a 70-percent tax from oil sources, and such income moves to the other objects of the church's concern, untouched.

Considering the apparent assumption on the part of proponents of the crude oil windfall profits tax, as enacted, that not-for-profit organizations serving neglected and handicapped children were included, by that act, among exempt charitable organizations, considering the fact that the relatively minor reduction in Federal revenues which would result from passage of S. 307, amounting to a mere temporary postponement of collection of such revenues; considering the critically damaging impact of the tax upon agencies such as the Baptist Children's Village, under existing legislation, and considering the substantial and needful service being delivered to dependent, neglected and handicapped children by voluntary, group residential agencies which relieve government of this burden; it is submitted that little argument remains for denying

exemptive relief from the crude oil windfall profits tax to not-for-profit, residential child care agencies described in S. 307.

The Baptist Children's Village appreciates this opportunity to here register, on its behalf, and on behalf of hundreds of other child care agencies, similarly situated.

We appreciate your time, and trust that we will have your support and vote to enact S. 307 at an early time.

Senator WALLOP. Thank you, Mr. Nunnery.

Mr. Ness.

And, inasmuch as we have so many bills to go through, I would appreciate a summary. Each of the statements will be inserted in the record as if they were read in whole.

STATEMENT OF ARLIN NESS, PRESIDENT, STARR COMMONWEALTH FOR BOYS, ALBION, MICH.

Mr. NESS. Mr. Chairman and members of the committee, my name is Arlin E. Ness.

I am president, chief executive officer, of Starr Commonwealth for Boys.

I welcome the opportunity to provide testimony to you directly on how the windfall profits tax is affecting at least one not-for-profit residential child care agency.

As president of one such agency, Starr Commonwealth for Boys, and a member of the National Association of Homes for Children, I am extremely concerned that a piece of legislation intended to tax profits of big oil companies has, in effect, become a tax directly on the services of some of the most beleaguered children in this Nation.

Starr Commonwealth for Boys, founded in 1913 in Albion, Mich., is an organization that has served over 10,000 children in residential treatment.

Today, with a main campus in Albion and two smaller branch campuses in Ohio, the organization serves yearly 750 children and families in residential treatment, a day treatment and alternative educational program, and family child guidance clinics.

Starr Commonwealth has a rich history of responding to the needs of children in the States of Michigan and Ohio, and meeting the demands that the Federal Government and society have placed upon private child care agencies to provide for the special needs of children.

Unfortunately, the heavy demand for top quality services has been outstripping the necessary funds and resources required to provide a sound, financial foundation to produce such services.

Starr Commonwealth, in its efforts to serve troubled children, depends on numerous funding sources to meet an ever increasing budget.

Forty percent of the organization's multimillion-dollar budget comes from the private sector through individual donations, foundations, legacies, and endowment earnings.

As a part of the income to make up the 40 percent of the private dollar, Starr Commonwealth has been fortunate to have oil on its property.

During the period of March 1980, through February 1981, the organization had income on its oil wells of $94,452 which was then

reduced by a windfall profit tax of $28,474, leaving a net income of $65,978. It is ironic to note that the year prior to March 1980, the net income on the oil was approximately $74,000 prior to any decontrol plan and windfall profit tax.

Perhaps to put the use of our oil dollars in perspective, it would be good to share with you what this means to the children we serve.

The income from our oil used to cover the utility bill for our organization, but that is no longer the case, for obvious reasons. Today this income would have covered the clothing budget for children in our residential treatment program, as was done before a windfall profit tax.

In effect, it took away clothing funds for 70 children which had to be found from other resources. The result was reduced services in other areas. Another way to look at it is that it denied 406 days of residential treatment services to a child and his or her family.

The children at Starr Commonwealth, as well as other members of the NAHC are not a group of elite children. They come from all walks of life. There is the child that has been physically and emotionally abused by parents to the point that he is fearful of any personal relationship with any adult or peers.

Or the child that has turned personal frustration into hostility or aggression toward others. Each of these two children needs the services of Starr Commonwealth or other members of NAHC.

If the services were not provided by the private sector, these children would certainly become public charges with services costing far more than what is the cost of private child care agencies.

In some instances, I am sure that some children would not even be offered services from the public sector due to unavailability of services or lack of funds. In that case these children become the "throw away children of society."

In closing, taxing nonprofit child care agencies deprives service to some of the most important people of our Nation, ones who are the least able to protect themselves, the children.

It fails to recognize our basic rights to service which have become the rallying cry for all other age groups of our society.

In this request for exemption, nonprofit child care agencies are not asking for more than others but rather that commonsense prevail in recognizing that there is no such thing as a windfall profit tax for a nonprofit organization.

Thank you.

Senator WALLOP. Thank you, Mr. Ness.

Dr. Morrison?

STATEMENT OF DR. IAN MORRISON, CHAIRMAN, PUBLIC AFFAIRS COMMITTEE, NATIONAL ASSOCIATION OF HOMES FOR CHILDREN, MILLBROOK, N.Y.

Dr. MORRISON. Mr. Chairman and members of the committee, my name is Ian Morrison.

I am chairman of the Public Affairs Committee of the National Association of Homes for Children, a national association of more than 500 nonprofit homes for children.

I am also the president, chief executive officer of Greer-Woodycrest Children's Services. I have been with Greer for 23 years.

Thank you for affording this opportunity for those of us representing children's homes to be heard. Perhaps you share my feeling of incongruity that those of us whose vocation it is to care for the disadvantaged children of America should be consuming your time and your thoughts with our concerns about such a basic capitalistic issue as the windfall oil profit tax.

The reason for this incongruity is more our fault than yours, since one must believe that the lack of exemption of child caring institutions is a result of the lack of clear nomenclature by which we can be identified.

It is relatively simple to think of and identify clearly a college or a university or most educational institutions, for that matter.

It is perhaps even simpler to identify health care facilities and hospitals, and to agree that such nonprofit organizations are doing visible good.

Most all of us have spent fruitful years in universities or healing weeks in hospitals and thus have little doubt that they should be exempt from a punitive tax in order that they can continue to grow to provide yet more good services for other people.

It is readily understandable that uncertain nomenclature can cause confusion and lack of corporate identity.

Most people, if they think about the matter at all, rarely relate, as doing one and the same job, the Bonnie Brae Farm in New Jersey, Greer-Woodycrest Children's Services in New York, Starr Commonwealth in Michigan, Yellowstone Boys Ranch in Montana, Buckner Baptist Benevolences in Texas, the Methodist Home for Children in Waco, or the Speck Home in Oklahoma.

All of these, however, representative of over 500 such in our membership, are 501(c)(3) organizations dependent to one degree or another upon donated dollars to support, maintain, train, and educate children in trouble. All are dependent almost entirely upon donated dollars to provide facilities, to enrich programs and to begin new programs for children in need.

Every such organization that I represent here today accepts children in trouble—usually as a result of adult troubles—and houses, nurtures, heals, educates, loves these children and then sends them on to college or an otherwise productive life.

The windfall oil profits tax is generating literally billions of dollars. As nearly as we can determine, the agencies to which we refer, and which are described in this bill, will dilute that several billions of dollars by a mere 5 million a year, at the most.

For the first time in the annals of American taxation, those organizations dedicated to performing a common good for the helpless and unrepresented which already have been recognized by the Internal Revenue Service as worthy of tax exemption are being taxed, and at a time when inflation and changing policies makes their plight more difficult than ever.

We beg of you—correct this oversight now in order that children—the least of those among us—can benefit from the riches that lie in this land of ours.

Senator WALLOP. Thank you very much, Dr. Morrison. This is just one of the bills that comes along from time to time that it is a pleasure to be a cosponsor of.

I think it is fair to say that there was an element of spite in the enactment of windfall profits tax that blinded a lot of people within the Congress to some of the outside effects of it, such as we are hearing of today.

I appreciate all of you.

Senator Matsunaga, do you have any questions?

Senator MATSUNAGA. No.

Senator WALLOP. Dr. Morrison, in addition to providing the committee with an estimate—of how child care homes are affected by the windfall profits tax—I wonder if you would be able to provide for the record a list of the child care homes from the States represented by members of the Finance Committee?

Dr. MORRISON. Yes, sir, we can do that within the day.

Senator WALLOP. I for one feel that the bill can muster a great deal of support.

I think that the facility to relieve children's homes would be—greatly appreciated—and I thank you for your information on your institutions.

Thank you.

Dr. MORRISON. Thank you, Mr. Chairman.

[The prepared statements of the presiding panel follow:]

STATEMENT
PAUL N. NUNNERY
BEFORE THE
SUB-COMMITTEE ON ENERGY AND AGRICULTURAL TAXATION
COMMITTEE ON FINANCE
UNITED STATES SENATE
JUNE 8, 1981

MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE: MY NAME IS PAUL N. NUNNERY. I AM EXECUTIVE DIRECTOR OF THE BAPTIST CHILDRENS' VILLAGE OF JACKSON, MISSISSIPPI. THANK YOU FOR AFFORDING US THE OPPORTUNITY TO APPEAR HERE TODAY. AMONG CHARITABLE INTERESTS AFFECTED MOST ADVERSELY AND MOST UNFAIRLY BY THE WINDFALL PROFITS TAX OF CRUDE OIL IS THE PRIVATE, VOLUNTARY, NOT-FOR-PROFIT HOME FOR CHILDREN WHICH IS SUPPORTED ONLY BY INDIVIDUAL GIFTS AND CONTRIBUTIONS. FOR ALMOST 100 YEARS, THE BAPTIST CHILDREN'S VILLAGE HAS ENGAGED IN GROUP, RESIDENTIAL CARE OF ORPHANS AND NEGLECTED DEPENDENT CHILDREN. CURRENTLY, FROM FOUR DIFFERENT FACILITIES IN NORTH, CENTRAL AND SOUTH MISSISSIPPI, WE AFFORD CUSTODIAL CARE TO AN AVERAGE OF 430 DIFFERENT BOYS AND GIRLS EACH YEAR, AS A MINISTRY OF SOUTHERN BAPTIST CHURCHES IN MISSISSIPPI, COOPERATING AS MISSISSIPPI BAPTIST CONVENTION. OUR SERVICES ARE AVAILABLE TO JUVENILES OF ALL AGES WHO ARE BONA FIDE RESIDENTS OF THE STATE OF MISSISSIPPI. CAMPUS-CARE, COMMUNITY-BASED GROUP CARE HOMES, OUR OWN VOLUNTARY SYSTEM OF FOSTER BOARDING HOMES, ADOPTIVE PLACEMENTS AND FAMILY COUNSELLING ARE INCLUDED IN OUR AGENCY'S PROGRAM.

THE BAPTIST CHILDREN'S VILLAGE IS A PURELY VOLUNTARY, NON PROFIT ENTERPRISE. ITS SERVICES ARE AVAILABLE WITHOUT FEE, TUITION OR CHARGE OF ANY KIND. IT NEITHER SEEKS NOR ACCEPTS FUNDING FOR OPERATING OR CAPITAL PURPOSES FROM GOVERNMENT AT ANY LEVEL, BEYOND ITS TAX-EXEMPT STATUS. THE FACILITIES, PROGRAMS AND SERVICES OF THIS AGENCY WERE ESTABLISHED, AND ARE MAINTAINED, BY AND THROUGH VOLUNTARY CONTRIBUTIONS, PRIMARILY FROM INDIVIDUALS WHO ARE CONTRIBUTING MEMBERS OF BAPTIST CHURCHES IN OUR STATE. VIRTUALLY WITHOUT EXCEPTION, THE VOLUNTARY SUPPORTERS OF

OUR AGENCY ARE MOTIVATED BY PHILOSOPHICAL, AND EVEN SPIRITUAL, CONSIDERATIONS. FROM PROFESSIONAL AFFILIATIONS IN ORGANIZATIONS SUCH AS CHILD CARE EXECUTIVES OF SOUTHERN BAPTISTS AND NATIONAL ASSOCIATION OF HOMES FOR CHILDREN, IT IS KNOWN THAT HUNDREDS OF VOLUNTARY RESIDENTIAL CHILD CARE AGENCIES AND HOMES FOR RESIDENTIAL PLACEMENT, CARE OR TREATMENT OF DELINQUENT, DEPENDENT, NEGLECTED AND HANDICAPPED CHILDREN EXIST IN EVERY AREA OF THE UNITED STATE: PERFORMING THEIR MINISTRIES AND DELIVERING THEIR SERVICES, EVEN AS THE BAPTIST CHILDREN'S VILLAGE, FINANCED SOLELY AND ONLY BY VOLUNTARY, PRIVATE, GIFTS AND CONTRIBUTIONS. IT IS SUBMITTED THAT AGENCIES SUCH AS THE BAPTIST CHILDREN'S VILLAGE ARE "CHARITABLE ORGANIZATIONS" IN THE PUREST SENSE OF THE TERM, BUT, UNHAPPILY, BECAUSE THEY SERVE DEPENDENT, NEGLECTED AND HANDICAPPED CHILDREN, THEY ARE NOT INCLUDED AMONG THE CHARITABLE ORGANIZATIONS WHICH ARE EXEMPT FROM THE WINDFALL PROFITS TAX OF CRUDE OIL.

LOSS IN INCOME TO THE BAPTIST CHIDREN'S VILLAGE ATTRIBUTABLE TO ITS LIABILITY UNDER THIS TAX IS CRIPPLING TO OUR MINISTRY IN A COMPARABLE DEGREE BECAUSE OF ITS SMALLER OPERATING BUDGET, SEVERAL RECENTLY-ACQUIRED, LARGER, ROYALTY INTERESTS AND THE DEARTH OF CONTRIBUTOR RESOURCES IN OUR STATE. A CHARITABLE ORGANIZATION OPERATING A HOME FOR CHILDREN MUST PURCHASE, IN OUR CASE FROM CONTRIBUTED INCOME, EVERY PRODUCT AND SERVICE WHICH ITS WARDS REQUIRE, INCLUDING THE SALARIES OF STAFF EMPLOYED AS TEMPORARY AND SUBSTITUTE PARENT-FIGURES.

PERHAPS THE MOST GRAPHIC ILLUSTRATION OF THE IMPACT OF THE WINDFALL PROFITS TAX UPON THE BAPTIST CHILDREN'S VILLAGE MAY BE AFFORDED BY REFERENCE TO AN ESPECIALLY SMALL ROYALTY INTEREST WHICH IT HOLDS IN PRODUCTION FROM ONE LEASE. WERE WE FREE FROM THE BURDEN OF THE TAX, THE INTEREST WOULD HAVE PRODUCED INCOME FOR OUR AGENCY, IN THE MONTH OF MAY, IN THE AMOUNT OF $23.38. TAXED, AS WE ARE, IN TIER 1, MARKET LEVEL, AT THE HIGHEST RATE OF 70%, $16.38 OF THAT INCOME WAS DEDUCTED IN PAYMENT OF THE WINDFALL PROFITS TAX, LEAVING A NET INCOME IN THE AMOUNT OF $7.00.

THE IMPORTANCE OF THAT $16.38 LOSS TO OUR CHILDREN MIGHT BEST BE UNDERSTOOD BY REMEMBERING THAT AT THE BAPTIST CHILDREN'S VILLAGE, IT COULD FEED ONE CHILD FOR MORE THAN TEN DAYS. INCOME LOSSES OF THIS ORDER, AT EXCEEDINGLY HIGH RATES, HAVE OCCURRED AGAIN AND AGAIN, AS OUR STATE HAS BECOME MORE AGGRESSIVE AND SUCCESSFUL IN OIL PRODUCTION AND OUR AGENCY HAS, THROUGH VOLUNTARY GIFTS, ACQUIRED OTHER AND MORE SUBSTANTIAL OIL ROYALTY INTERESTS.

IT SHOULD BE REMEMBERED THAT THE NOT-FOR-PROFIT CHILD CARE AGENCY, PARTICULARLY THE AGENCY WHICH EXISTS SOLELY AND ONLY FROM CONTRIBUTED INCOME, CAN NOT REPLACE INCOME LOST TO TAXES. THE LOSS CAN ONLY BE ABSORBED THROUGH CURTAILMENT OF SERVICES, REDUCTIONS IN CARE - AT A TIME WHEN BOTH INFLATION AND THE STEADILY INCREASING DEMAND FOR QUALITY CHILD CARE MAKE IT DIFFICULT FOR AGENCIES SUCH AS THE BAPTIST CHILDREN'S VILLAGE TO SURVIVE. EXPANDED AND REFINED MINISTRIES AND SERVICES, UNDER THESE CIRCUMSTANCES CAN NOT EVEN BE CONSIDERED. THE CHILDREN WE SEEK TO SERVE BECOME THE REAL LOSERS. AT THE BAPTIST CHILDREN'S VILLAGE, AS IN THE CASE OF EVERY VOLUNTARY CHILD CARE AGENCY KNOWN TO US, VIRTUALLY ALL OF THE BOYS AND GIRLS UNDER CARE WOULD VERY PROBABLY BECOME PUBLIC CHARGES, WERE IT NOT FOR THE FACILITIES, SERVICES AND PROGRAMS WE PROVIDE. TO AN INCREASING DEGREE, THE CHILDREN UNDER OUR CARE COME TO US AT AN ADVANCED AGE AND WITH COMPLICATED SOCIAL AND EMOTIONAL PROBLEMS, FREQUENTLY AFTER LIVING IN A NUMBER OF DIFFERENT PLACEMENT AGENCIES IN THE PUBLIC SECTOR WHICH ARE FINANCED, IN WHOLE OR IN PART, WITH GOVERNMENT FUNDING. IT APPEARS REGRETTABLE, TO SAY THE LEAST, TO NOTE THAT THE EFFECT OF THE TAX ON SUCH AGENCIES AS THE BAPTIST CHILDREN'S VILLAGE ACTUALLY DEPRIVES CHILDREN, IN MANY INSTANCES, OF THE CARE THEY NEED, WHEN ONE OF THE PROJECTED USES OF RECEIPTS FROM THIS TAX IS SAID TO BE THAT OF FINANCING SOCIAL PROGRAMS FOR THE NEEDY.

PERHAPS THE MOST DANGEROUS EFFECT OF THE WINDFALL PROFITS TAX ON THE BAPTIST CHILDREN'S VILLAGE AND OTHER NOT-FOR-PROFIT CHILD CARE AGENCIES SIMILARLY ORGANIZED

AND SITUATED, IS THE DISCOURAGING INFLUENCE WHICH OUR LIABILITY TO THE TAX EXERTS UPON PROSPECTIVE AND POTENTIAL DONORS AND FINANCIAL SUPPORTERS. IN SEVERAL INSTANCES IN OUR OWN STATE, WHEREIN OUR AGENCY IS BEING CONSIDERED AS A BENEFICIARY FOR A GIFT OR A BEQUEST OF A PRODUCING ROYALTY INTEREST, ALONG WITH OTHER CHURCH-RELATED ENTERPRISES IN OUR STATE WHICH ARE EXEMPT FROM THIS TAX; SUCH AS A COLLEGE AND A HOSPITAL; THE LIABILITY OF THE BAPTIST CHILDREN'S VILLAGE TO THE TAX, PLACES US AT A DISTINCT DISADVANTAGE, TO SAY THE LEAST. FEW PROSPECTIVE DONORS, MOTIVATED BY THE SORT OF PHILOSOPHICAL AND SPIRITUAL PERSUASIONS WHICH ARE CHARACTERISTIC OF OUR SUPPORTERS, WILL CHOOSE CHILD CARE INSTEAD OF ONE OF THE CHURCH'S OTHER MISSIONS, WHEN CHILD CARE'S INCOME IS SUBJECTED TO A 70% TAX FROM OIL SOURCES, AND SUCH INCOME MOVES TO THE OTHER OBJECTS OF THE CHURCH'S CONCERN, UNTOUCHED.

CONSIDERING THE APPARENT ASSUMPTION ON THE PART OF PROPONENTS OF THE CRUDE OIL WINDFALL PROFITS TAX, AS ENACTED, THAT NOT-FOR-PROFIT ORGANIZATIONS SERVING NEGLECTED AND HANDICAPPED CHILDREN WERE INCLUDED, BY THAT ACT, AMONG EXEMPT CHARITABLE ORGANIZATIONS, (AN ASSUMPTION WHICH HAS DEVELOPED TO BE ILL-FOUNDED); CONSIDERING THE FACT THAT THE RELATIVELY MINOR REDUCTION IN FEDERAL REVENUES WHICH WOULD RESULT FROM PASSAGE OF S. 307, AMOUNTING TO A MERE TEMPORARY POSTPONEMENT OF COLLECTION OF SUCH REVENUES; CONSIDERING THE CRITICALLY DAMAGING IMPACT OF THE TAX UPON AGENCIES SUCH AS THE BAPTIST CHILDREN'S VILLAGE, UNDER EXISTING LEGISLATION; AND CONSIDERING THE SUBSTANTIAL AND NEEDFUL SERVICE BEING DELIVERED TO DEPENDENT, NEGLECTED AND HANDICAPPED CHILDREN BY VOLUNTARY, GROUP RESIDENTIAL AGENCIES WHICH RELIEVE GOVERNMENT OF THIS BURDEN; IT IS SUBMITTED THAT LITTLE ARGUMENT REMAINS FOR DENYING EXEMPTIVE RELIEF FROM THE CRUDE OIL WINDFALL PROFITS TAX TO NOT-FOR-PROFIT, RESIDENTIAL CHILD CARE AGENCIES DESCRIBED IN S. 307. THE BAPTIST CHILDREN'S VILLAGE APPRECIATES THIS OPPORTUNITY TO HERE REGISTER, ON ITS BEHALF, AND ON BEHALF OF HUNDREDS OF OTHER CHILD CARE AGENCIES, SIMILARLY SITUATED, ITS PLIGHT AND ITS CASE. WE APPRECIATE YOUR TIME AND TRUST THAT WE WILL HAVE YOUR SUPPORT AND VOTE TO INACT S. 307 AT AN EARLY TIME.

STATEMENT

ARLIN NESS

BEFORE THE

SUB-COMMITTEE ON ENERGY AND AGRICULTURAL TAXATION

COMMITTEE ON FINANCE

UNITED STATES SENATE

June 8, 1981

MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE:

I WELCOME THE OPPORTUNITY TO PROVIDE TESTIMONY TO YOU DIRECTLY ON HOW THE WINDFALL PROFITS TAX IS AFFECTING AT LEAST ONE NOT-FOR-PROFIT RESIDENTIAL CHILD CARE AGENCY. AS PRESIDENT OF ONE SUCH AGENCY, STARR COMMONWEALTH FOR BOYS, AND A MEMBER OF THE NATIONAL ASSOCIATION OF HOMES FOR CHILDREN, I AM EXTREMELY CONCERNED THAT A PIECE OF LEGISLATION INTENDED TO TAX PROFITS OF BIG OIL COMPANIES HAS, IN EFFECT, BECOME A TAX DIRECTLY ON THE SERVICES OF SOME OF THE MOST BELEAGURED CHILDREN IN THIS NATION.

STARR COMMONWEALTH FOR BOYS, FOUNDED IN 1913 IN ALBION, MICHIGAN, IS AN ORGANIZATION THAT HAS SERVED OVER 10,000 CHILDREN IN RESIDENTIAL TREATMENT. TODAY, WITH A MAIN CAMPUS IN ALBION AND TWO SMALLER BRANCH CAMPUSES IN OHIO, THE ORGANIZATION SERVES YEARLY 750 CHILDREN AND FAMILIES IN RESIDENTIAL TREATMENT, A DAY TREATMENT AND ALTERNATIVE EDUCATIONAL PROGRAM, AND FAMILY CHILD GUIDANCE CLINICS.

STARR COMMONWEALTH HAS A RICH HISTORY OF RESPONDING TO THE NEEDS OF CHILLDREN IN THE STATES OF MICHIGAN AND OHIO AND MEETING THE DEMANDS THAT THE FEDERAL GOVERNMENT AND SOCIETY HAVE PLACED UPON PRIVATE CHILD CARE AGENCIES TO PROVIDE FOR THE SPECIAL NEEDS OF CHILDREN. UNFORTUNATELY, THE HEAVY DEMAND FOR TOP QUALITY SERVICES HAS BEEN OUTSTRIPPING THE NECESSARY FUNDS AND RESOURCES

REQUIRED TO PROVIDE A SOUND FINANCIAL FOUNDATION TO PRODUCE SUCH SERVICES.

STARR COMMONWEALTH, IN ITS EFFORTS TO SERVE TROUBLED CHILDREN, DEPENDS ON NUMEROUS FUNDING SOURCES TO MEET AN EVER INCREASING BUDGET. FORTY PERCENT OF THE ORGANIZATION'S MULTI-MILLION DOLLAR BUDGET COMES FROM THE PRIVATE SECTOR THROUGH INDIVIDUAL DONATIONS, FOUNDATIONS, LEGACIES AND ENDOWMENT EARNINGS. AS A PART OF THE INCOME TO MAKE UP THE 40% OF THE PRIVATE DOLLAR, STARR COMMONWEALTH HAS BEEN FORTUNATE TO HAVE OIL ON ITS PROPERTY. DURING THE PERIOD OF MARCH, 1980 THROUGH FEBRUARY, 1981 THE ORGANIZATION HAD INCOME ON ITS OIL WELLS OF $94,452, WHICH WAS THEN REDUCED BY A WINDFALL PROFITS TAX OF $28,474, LEAVING A NET INCOME OF $65,978. IT IS IRONIC TO NOTE THAT THE YEAR PRIOR TO MARCH, 1980 THE NET INCOME ON THE OIL WAS APPROXIMATELY $74,000 PRIOR TO ANY DECONTROL PLAN AND WINDFALL PROFITS TAX.

PERHAPS TO PUT THE USE OF OUR OIL DOLLARS IN PERSPECTIVE, IT WOULD BE GOOD TO SHARE WITH YOU WHAT THIS MEANS TO THE CHILDREN WE SERVE. THE INCOME FROM OUR OIL USED TO COVER THE UTILITY BILL FOR OUR ORGANIZATION, BUT THAT IS NO LONGER THE CASE, FOR OBVIOUS REASONS. TODAY THIS INCOME WOULD HAVE COVERED THE CLOTHING BUDGET FOR CHILDREN IN OUR RESIDENTIAL TREATMENT PROGRAM, AS WAS DONE BEFORE A WINDFALL PROFITS TAX. IN EFFECT, IT TOOK AWAY CLOTHING FUNDS FOR 70 CHILDREN WHICH HAD TO BE FOUND FROM OTHER RESOURCES. THE RESULT IS REDUCED SERVICES IN OTHER AREAS. ANOTHER WAY TO LOOK AT IT IS THAT IT DENIED 406 DAYS OF RESIDENTIAL TREATMENT SERVICES TO A CHILD AND HIS OR HER FAMILY.

THE CHILDREN AT STARR COMMONWEALTH, AS WELL AS OTHER MEMBERS OF THE NAHC SERVE ARE NOT A GROUP OF ELITE CHILDREN. THEY COME FROM ALL "WALKS" OF LIFE. THERE IS THE CHILD THAT HAS BEEN PHYSICALLY AND EMOTIONALLY ABUSED BY PARENTS TO THE POINT THAT HE IS FEARFUL OF ANY PERSONAL RELATIONSHIP WITH ANY ADULT OR PEERS. OR THE CHILD THAT HAS TURNED PERSONAL FRUSTRATION INTO HOSTILITY OR AGGRESSION TOWARD OTHERS. EACH OF THESE TWO CHILDREN NEEDS THE SERVICES OF

STARR COMMONWEALTH OR OTHER MEMBERS OF NAHC. IF THE SERVICES WERE NOT PROVIDED BY THE PRIVATE SECTOR, THESE CHILDREN WOULD CERTAINLY BECOME PUBLIC CHARGES WITH SERVICES COSTING FAR MORE THAN WHAT IS THE COST OF PRIVATE CHILD CARE AGENCIES. IN SOME INSTANCES, I AM SURE THAT SOME CHILDREN WOULD NOT EVEN BE OFFERED SERVICES FROM THE PUBLIC SECTOR DUE TO UNAVAILABLILITY OF SERVICES OR LACK OF FUNDS. IN THAT CASE THESE CHILDREN BECOME THE "THROW AWAY CHILDREN OF SOCIETY."

IN CLOSING, TAXING NON-PROFIT CHILD CARE AGENCIES DEPRIVES SERVICE TO SOME OF THE MOST IMPORTANT PEOPLE OF OUR NATION, ONES WHO ARE THE LEAST ABLE TO PROTECT THEMSELVES, THE CHILDREN. IT FAILS TO RECOGNIZE OUR BASIC RIGHTS TO SERVICE WHICH HAVE BECOME THE RALLYING CRY FOR ALL OTHER AGE GROUPS OF OUR SOCIETY. IN THIS REQUEST FOR EXEMPTION, NON-PROFIT CHILD CARE AGENCIES ARE NOT ASKING FOR MORE THAN OTHERS BUT RATHER THAT COMMON SENSE PREVAIL IN RECOGNIZING THAT THERE IS NO SUCH THING AS A WINDFALL PROFITS TAX FOR A NON-PROFIT ORGANIZATION.

STATEMENT
DR. IAN MORRISON
BEFORE THE
SUB-COMMITTEE ON ENERGY
AND AGRICULTURAL TAXATION
COMMITTEE ON FINANCE
UNITED STATES SENATE
JUNE 8, 1981

MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE: MY NAME IS IAN MORRISON. I AM CHAIRMAN OF THE PUBLIC AFFAIRS COMMITTEE OF N.A.H.C., A NATIONAL ASSOCIATION OF MORE THAN 500 NON-PROFIT HOMES FOR CHILDREN. I AM ALSO THE PRESIDENT, CHIEF EXECUTIVE OFFICER OF GREER-WOODYCREST CHILDREN'S SERVICES. I HAVE BEEN WITH GREER FOR 23 YEARS.

THANK YOU FOR AFFORDING THIS OPPORTUNITY FOR THOSE OF US REPRESENTING CHILDREN'S HOMES TO BE HEARD. PERHAPS YOU SHARE MY FEELING OF INCONGRUITY THAT THOSE OF US WHOSE VOCATION IT IS TO CARE FOR THE DISADVANTAGED CHILDREN OF AMERICA SHOULD BE CONSUMING YOUR TIME AND YOUR THOUGHTS WITH OUR CONCERNS ABOUT SUCH A BASIC CAPITALISTIC ISSUE AS THE WINDFALL OIL PROFITS TAX.

THE REASON FOR THIS INCONGRUITY IS MORE OUR FAULT THAN YOURS, SINCE ONE MUST BELIEVE THAT THE LACK OF EXEMPTION OF CHILD CARING INSTITUTIONS IS A RESULT OF THE LACK OF CLEAR NOMENCLATURE BY WHICH WE CAN BE IDENTIFIED.

IT IS RELATIVELY SIMPLE TO THINK OF AND IDENTIFY CLEARLY A COLLEGE OR A UNIVERSITY OR MOST EDUCATIONAL INSTITUTIONS, FOR THAT MATTER. IT IS PERHAPS EVEN SIMPLER TO IDENTIFY HEALTH CARE FACILITIES AND HOSPITALS, AND TO AGREE THAT SUCH NON-PROFIT ORGANIZATIONS ARE DOING VISIBLE GOOD. MOST ALL OF US HAVE SPENT FRUITFUL YEARS IN UNIVERSITIES OR HEALING WEEKS IN HOSPITALS AND THUS HAVE LITTLE DOUBT THAT THEY SHOULD BE EXEMPT FROM A PUNITIVE TAX IN ORDER THAT THEY CAN CONTINUE TO GROW TO PROVIDE YET MORE GOOD SERVICES FOR OTHER PEOPLE.

IT IS READILY UNDERSTANDABLE THAT UNCERTAIN NOMENCLATURE CAN CAUSE CONFUSION AND LACK OF CORPORATE IDENTITY.

MOST PEOPLE, IF THEY THINK ABOUT THE MATTER AT ALL, RARELY RELATE, AS DOING ONE AND THE SAME JOB, THE BONNIE BRAE FARM IN NEW JERSEY, GREER-WOODYCREST CHILDREN'S

SERVICES IN NEW YORK, STARR COMMONWEALTH IN MICHIGAN, YELLOWSTONE BOYS RANCH IN MONTANA, BUCKNER BAPTIST BENEVOLENCES IN TEXAS, THE METHODIST HOME FOR CHILDREN IN WACO, OR THE SPECK HOME IN OKLAHOMA.

ALL OF THESE, HOWEVER, REPRESENTATIVE OF OVER 500 SUCH IN OUR MEMBERSHIP, ARE 501 (c) (3) ORGANIZATIONS DEPENDENT TO ONE DEGREE OR ANOTHER UPON DONATED DOLLARS TO SUPPORT, MAINTAIN, TRAIN, AND EDUCATE CHILDREN IN TROUBLE. ALL ARE DEPENDENT ALMOST ENTIRELY UPON DONATED DOLLARS TO PROVIDE FACILITIES, TO ENRICH PROGRAMS AND TO BEGIN NEW PROGRAMS FOR CHILDREN IN NEED.

EVERY SUCH ORGANIZATION THAT I REPRESENT HERE TODAY ACCEPTS CHILDREN IN TROUBLE -- USUALLY AS A RESULT OF ADULT TROUBLES -- AND HOUSES, NURTURES, HEALS, EDUCATES, LOVES THESE CHILDREN AND THEN SENDS THEM ON TO COLLEGE OR AN OTHERWISE PRODUCTIVE LIFE.

THE WINDFALL OIL PROFITS TAX IS GENERATING LITERALLY BILLIONS OF DOLLARS. AS NEARLY AS WE CAN DETERMINE, THE AGENCIES TO WHICH WE REFER, AND WHICH ARE DESCRIBED IN THIS BILL, WILL DILUTE THAT SEVERAL BILLIONS OF DOLLARS BY A MERE FIVE MILLION DOLLARS A YEAR, AT THE MOST.

FOR THE FIRST TIME IN THE ANNALS OF AMERICAN TAXATION, THOSE ORGANIZATIONS DEDICATED TO PERFORMING A COMMON GOOD FOR THE HELPLESS AND UNREPRESENTED WHICH ALREADY HAVE BEEN RECOGNIZED BY THE INTERNAL REVENUE SERVICE AS WORTHY OF TAX EXEMPTION ARE BEING TAXED, AND AT A TIME WHEN INFLATION AND CHANGING POLICIES MAKES THEIR PLIGHT MORE DIFFICULT THAN EVER.

WE BEG OF YOU: CORRECT THIS OVERSIGHT NOW IN ORDER THAT CHILDREN -- THE LEAST OF THOSE AMONG US -- CAN BENEFIT FROM THE RICHES THAT LIE IN THIS LAND OF OURS.

Senator MATSUNAGA. Mr. Chairman, the bill which I introduce, which is now before you, S. 448, would serve a very simple purpose.

It merely seeks to correct a problem posed by the Internal Revenue Code under section 6427B of the Internal Revenue Code, as amended by the Energy Tax Act of 1978—bus owners and/or operators engaged in intercity, charter, local and special operations as in busing schoolchildren, are exempt from the Federal excise tax on the fuel used by such buses.

However, the bus owners and/or operators, although exempt, must first pay the excise tax and subsequently file for a refund.

Affected taxpayers from across the country have complained about this clumsy, burdensome procedure. Mr. Chairman, sound public policy would seem to dictate the expeditious enactment of my bill, for it would end the complicated and burdensome requirement of paying a fully refundable tax, and then filing for its complete refund.

Obviously, the remedy impact of my bill would be practically nil, but its enactment would save bus owners and/or operators, as well as the Government, from the administrative expenses involved in paying the tax, completing the refund application, and processing the refund.

Mr. Chairman, I appreciate the scheduling of this bill on early hearing, and I would encourage your reporting it to the full committee.

Senator WALLOP. Thank you, Senator Matsunaga. It would seem that the revenue impact might even be one of benefit to the Government. It's got to cost them something to process things in both directions.

Senator MATSUNAGA. That is correct. I might call your attention to the fact that in the summary of bills prepared for the committee, it says that it is estimated the bill would reduce fiscally in 1982 receipts by $9 billion.

Well, that is actually what is received but will be fully refunded, anyhow. So there is no revenue loss.

And, as you say, Mr. Chairman, it would definitely save the Government administrative expenses.

Senator WALLOP. Thank you very much, Senator Matsunaga.

Mr. Sherlock, please proceed.

STATEMENT OF NORMAN R. SHERLOCK, EXECUTIVE VICE PRESIDENT, AMERICAN BUS ASSOCIATION, WASHINGTON, D.C.

Mr. SHERLOCK. Thank you, Mr. Chairman.

Senator Matsunaga, I appreciate your explanation. It is right on the money.

My name is Norman Sherlock. I am executive vice president of the American Bus Association, which has about 2,000 members.

We represent private bus operators that provide regular scheduled service, local commuting, tours and charters, as well as special operations.

In addition, among our members, there are about 1,300 entities engaged in travel and tourism throughout the country—theme parks, attractions, restaurants, hotels and motels. These people carried about 375 million passengers last year, which is more than the airlines and Amtrak combined.

Since the bus industry is one that receives virtually no direct subsidy, the manner in which tax policy and tax initiatives are fashioned is critical to our operators in determining their financial viability and the way that they run their businesses.

Generally we hold the view that tax policies which make no sense to small business or to the Government should be dispensed with.

The same is true for needless paperwork burdens related to taxes. Such is the case with the fuel excise tax exemption problem which is addressed by Senator Matsunaga's bill, S. 448.

The pay/refund procedure imposes a needless bureaucratic paperwork burdon on the Government and on the bus operator who, typically, is a small businessman.

The procedure also hampers the cash flow of the bus operator whose funds are tied up while the Government goes through the process of receiving the tax and then sending it back.

Senator Matsunaga's proposed legislation, supported by the American Bus Association, simply gives effect to the intent of Congress as expressed in the Energy Tax Act.

Bus operators would no longer have to go through the long and complicated process of paying the tax and then filing for a refund. Instead, bus operators would be permitted to make their purchases free of the excise tax.

We know, Mr. Chairman, that you have introduced a bill to revise, extend, and make more effective the existing tax credits designed to encourage energy conservation. That is certainly a step in the right direction.

Further consideration of the credit which is designed to enhance the bus system as an instrument of conservation would be in accord with it.

We agree with you that such energy tax credits are a supplement to, but in no way a substitute for, broad-based capital formation legislation.

Thank you.

Senator WALLOP. Thank you, Mr. Sherlock.

It is my understanding that the primary thrust of Senator Matsunaga's bill is to eliminate the needless burden of paperwork and the administrative expense.

Does every small company have to go through this procedure.

Mr. SHERLOCK. Yes, all of our companies do, and of course, the larger you are, the more staff you have so the more able you are to handle it.

But a great number of complaints come from the small operators who, in many cases, own their own buses, or operate their own buses, and they just don't have time to deal with this type of paperwork while they are trying to get their business done.

Senator WALLOP. Can you characterize what it might be like for a small, average company?

Mr. SHERLOCK. I don't have exact estimates on that. And of course, it does vary according to the size of the company.

The smaller companies, for instance—you might be talking about a $4,000 or $5,000 refund, and to get that, they might be burning up a considerable number of hours of accountant time in fooling around with paperwork.

Senator WALLOP. Thank you very much.
Senator Matsunaga, do you have any questions?
Senator MATSUNAGA. No questions, Mr. Chairman.
[The prepared statement of Mr. Norman R. Sherlock follows:]

STATEMENT OF

NORMAN R. SHERLOCK

EXECUTIVE VICE PRESIDENT

AMERICAN BUS ASSOCIATION

BEFORE THE

ENERGY & AGRICULTURAL TAXATION SUBCOMMITTEE

COMMITTEE ON FINANCE

U.S. SENATE

WASHINGTON, D.C.

JUNE 8, 1981

American Bus Association
1025 Connecticut Avenue, N.W.
Washington, D.C. 20036

(202) 293-5890

Mr. Chairman and Members of the Subcommittee:

My name is Norman Sherlock. I am Executive Vice President of the American Bus Association, which has about 2,000 members. We represent private bus operators that provide regular scheduled service, local commuting, tours and charters, as well as special operations. In addition, among our members, there are about 1,300 entities engaged in travel and tourism throughout the country -- theme parks, attractions, restaurants, hotels and motels.

The intercity bus industry is comprised of approximately 1,150 individual bus companies which carry passengers between communities in this country. Although many people visualize the industry as being the two large nationally organized carriers, Greyhound Lines and Trailways, many other carriers provide a wide range of services. In fact, of the 375 million passengers carried last year, about 70 percent were carried by the other smaller regional or local bus operators.

In fashioning tax policy, it is important to understand the nature of this industry and the role that it plays in transportation, both now and in the future. First, the bus is the most energy efficient mode of transportation today. It requires, for example, less than one-third of the fuel needed to transport an equivalent number of people otherwise carried by either the train or the car. Consequently, its expanded use will save energy and substantially reduce fuel consumed in passenger transportation.

Second, the intercity bus industry serves nearly 15,000 communities in this country -- over 14,000 of which are not served by any other form of transportation. As automobile use necessarily declines in the future, it will be the intercity bus operator which will provide mobility to our rural areas and small towns, as well as between urban centers. Third, the bus industry carries more passengers than any other form of public intercity transportation. The total of 375 million passengers carried last year is more than the airlines and Amtrak combined. Fourth, the intercity bus industry has emerged as a very important factor in maintaining the economic welfare of the travel and tourism industry, an activity that accounts for $128 billion in our national economy. Tourism is the first, second or third largest industry of at least 40 states. Economists predict that by the year 2000 travel and tourism will be the largest industry in the world. Bus transportation has been a critical lifeline for this industry in many cases, and the need for it will be even greater in the future.

Tax policy plays an important role in determining the financial viability of the bus industry because the industry is largely made up of small businesses. Tax policies which make no sense to small business or to the government should be dispensed with. The same is true for needless paperwork burdens related to taxes.

Such is the case with the fuel excise tax exemption problem which is addressed by Senator Matsunaga's bill, S.448.

In 1978, Congress passed the Energy Tax Act (Public Law 95-618) which exempts intercity bus operators from the 4 cent per gallon federal excise tax on diesel fuel. This was done in order to provide for greater use and development of intercity bus service as a fuel efficient alternative to private automobile use. Congress recognized that it needed to take whatever steps it could to remove inequitable tax burdens from the industry and allow it to conduct as economical a service as possible to the public. The move was also prompted by the fact that it was "appropriate to make the excise tax treatment of private transit and school bus operations consistent with governmental and tax-exempt educational bus operations," according to the legislative history.

The fuel tax exemption in the Internal Revenue Code (s. 6427B) is drafted in such a way that a bus operator engaged in intercity, charter, local and special operations is required to first pay the excise tax and then file for a refund. According to existing regulations, bus operators that pay an excise tax of less than $1,000 a quarter may claim the tax only as a credit against income tax liability for the tax year in which the qualifying use occurred. Those operators who have a quarterly claim of $1,000 or more may either claim the tax as a credit on their income tax or file for a refund. This must be done by the later of three years from the date of the original return or two years from the time the tax is paid. This procedure makes no sense whatsoever, either for the government or for the bus operator.

The pay/refund procedure imposes a needless bureaucratic paperwork burden on the government and on the bus operator who, typically, is a small businessman. The procedure also hampers the cash flow of the bus operator whose funds are tied up while the government goes through the process of receiving the tax and then sending it back.

Senator Matsunaga's proposed legislation, supported by the American Bus Association, simply gives effect to the intent of Congress as expressed in the Energy Tax Act.

Bus operators would no longer have to go through the long and complicated process of paying the tax and then filing for a refund. Instead, bus operators would be permitted to make their purchases free of the excise tax.

The cost of such an amendment to the government is virtually zero.

Senator Matsunaga's proposal is in keeping with the mandate of the people, expressed in last November's election -- to lessen the burdens of government on business and to streamline the bureaucracy.

The American Bus Association urges favorable action on S.448 at the earliest possible time.

Senator WALLOP. The next bill we will consider is S. 498, the solar tax credit bill.

We will now hear from the second panel of: Pascal DeLaquil, Gerald Carlisle, Nissie Grossman, and Thomas Rouse.

Please come forward, and observe the same time allowances.

STATEMENT OF PASCAL DE LAQUIL, JR., PRESIDENT OF ARCHITECTURAL ALUMINUM MANUFACTURERS ASSOCIATION, CHICAGO, ILL.

Mr. DELAQUIL. Thank you, Mr. Chairman.

We would like to take this opportunity to thank you and the members of this committee for the opportunity to express our views on the passive solar tax credit legislation in general and specifically Senate Bill 498 as introduced by Senator Hart et al.

I am Pat DeLaquil. I am president of Amcor Industries of Delmont, Pa., a company that, inter alia, manufactures aluminum windows.

I am speaking to you today, as the volunteer-elected president of the Architectural Aluminum Manufacturers Association.

AAMA is a national nonprofit trade association, headquartered in Chicago, Ill. The association is comprised of 260 member companies involved in the manufacture of architectural aluminum components for both residential and commercial buildings.

The lion's share of the products produced by our membership are key elements of glazed components and glazing systems for buildings.

Glazing systems, in turn, are major elements of even the most basic passive solar energy utilization systems.

Passive solar systems represent the most cost-effective and easily applied technology for home heating and cooling.

Governmental agencies estimate that a substantial amount of home heating requirements, depending on geographic location and climate, can be satisfied with passive solar techniques.

Thus, passive solar is not only a sound investment for today, but will result in additional future benefits as fuel costs continue to rise.

Furthermore, passive solar is a proven technology, which can be applied with minimal departure from conventional residential designs and average finished home costs. For example, new homes can be constructed with larger proportions of glazing on south-facing exterior walls, and with eaves placed to block out the direct rays of the high summer sun while admitting the low winter sun to heat the interior.

Such techniques may be implemented without having to depend on mechanical systems.

The only missing ingredient has been quantified design data to allow architects and builders to optimize building designs for maximum beneficial passive solar utilization.

It is true that using glazing to act as a solar collection device has been an intuitive concept, which architects have long translated into a subjective preference for southerly exposures.

However, this technique has not been factored into engineering planning or quantitative data. Recent energy conservation concerns

have provided the impetus to develop a scientific approach to passive solar design.

AAMA has contributed to the effort to provide such design tools to enable the builder to take full advantage of practical passive solar techniques that are highly efficient in cost payback.

These AAMA efforts, and those of other industry associations, are, of course, complementing the pioneering work of the Departments of Energy, Housing and Urban Development and Commerce in providing sound passive solar design data.

We support the proposed legislation for two principal reasons: First, we endorse the effort to provide incentives for using renewable energy resources to help reduce our Nation's dependence on fossil fuels.

Second, we support this legislation because the building industry needs the incentive to incorporate passive solar designs.

Despite passive solar's obvious economic advantages, these savings accrue to the homeowners, not to the builder.

In addition, builders and developers, who must compete in an extremely tight market for investment capital, are understandably reluctant to make any addition to a home which might add to its costs, or which might limit its acceptance by the public or mortgage lending institutions.

If builders are reluctant to produce homes with passive solar features, such homes will simply not be available for homebuyers to realize their economic and energy saving benefits.

The proposed legislation will give builders the needed incentive to overcome these obstacles, spur the growth and commercialization of the passive solar market, and enable homebuyers to combat increasing energy costs.

In short, the methodology exists, the technology is proven, and the needs for energy savings and incentives for the building community are clear.

For these reasons, AAMA supports Senate bill 498 and urges its passage and implementation.

Thank you.

Senator WALLOP. Thank you, Mr. DeLaquil.

Mr. Carlisle?

Excuse me——

STATEMENT OF JOAN BAGGETT, LEGISLATIVE REPRESENTATIVE, BRICKLAYER'S INTERNATIONAL UNION

Ms. BAGGETT. I am Joan Baggett, legislative representative for the Bricklayer's International Union.

Mr. Carlisle was unable to be here.

We appreciate this opportunity to testify in support of passive solar energy tax credits as embodied in S. 498 and H.R. 1960.

The Masonry Industry Committee, of which the Bricklayer's Union is a member along with the Brick Institute of America, The Laborers International Union of North America, the National Lime Association, the Mason Contractors Association of America, the International Masonry Institute, the National Concrete Masonry Association, and Portland Cement Association, also strongly supports passive solar tax credits.

The masonry industry has for almost 7 years been deeply involved in questions of energy conservation and efficiency in buildings. We have made deep commitments of money and time to research pilot projects and other endeavors aimed at studying the energy performance of buildings and buildings components, and at discovering better ways to design and build structures so that they will be more energy efficient.

I wish to be brief and direct about what we have found out. There is still a great deal that is unknown about the thermal performance of buildings, but there is no doubt that passive solar design provides the best, most practical and most cost-effective way to make buildings more thermally efficient.

Because passive solar design reduces the amount of fossil fuel derived energy needed to heat and cool buildings, it will save consumers and our Nation significant amounts of money.

We say that passive solar design is the best way because it is a natural, nonpolluting, nondepleting approach to the energy problem.

We say that it is the most practical way because the design and application technology of passive solar is well known.

The products already exist. Designers understand how to make it work. Contractors are ready to bid the jobs. And craftsmen are available and prepared to do the work. For the fact of the matter is that passive solar requires nothing new. Throughout history people have understood and used passive solar design.

All we need to do is relearn an approach to building design that was commonplace until this century and the era of deceptively abundant and cheap energy.

We say that passive solar is the most cost effective means of energy conservation and efficiency because it typically can save 50 to 60 percent of a home's heating costs.

Furthermore, the elements of a passive solar energy heating system, such as walls, floors, fireplaces, and windows all serve multiple purposes.

Fuel cost savings resulting from passive solar energy systems vary according to factors such as design, orientation, location, and climate.

These savings can be expected to improve as the costs for home heating and cooling increase; for example, for residential use of electricity, natural gas, heating oil, and propane, the Department of Energy projects that the average increase over the next 4 years will be more than 10 percent per year in real dollars.

Further deregulation of conventional fuels will increase both the demand for and the amount of savings to be gained from passive solar systems. The almost daily strides in the state-of-the-art of passive solar technology will also increase its efficiency and its potential to save money for homeowners.

Chuck Ochsner, a builder in Denver, Colo., reports that the tremendous consumer demand for passive solar has convinced him to change his offerings from almost all conventionally heated homes to 90 percent passive solar homes.

When he exhibited a passive solar house in a local "Tour of Homes," more than 14,000 people went through the model and at least 10 duplicate houses were sold during the first 3 weeks.

Ochsner says that the people want to buy his homes despite high interest rates on mortgages because they feel their initial expenditure will be offset by fuel savings, and they like the way the homes integrate passive solar heating features into an attractive masonry structure.

He estimates that passive solar features add 6 to 8 percent to the cost of his buildings—but with the 60 percent fuel savings projected in his standard passive solar home (the exact amount of fuel consumption is being scientifically monitored by the DOE Solar Energy Resource Institute), the homeowner should make up for his initial outlay within just a few years.

In addition to being a superior heat storage material in a passive system, masonry, because of its mass and low conductivity, is an excellent choice for the exterior of any home. Because heat is transmitted through it slowly, less heat is lost to the outside in winter, and less outside heat enters the building in summer.

It was this principle of thermal inertia that kept the Pueblo Indians comfortable in their clay-brick adobe dwellings in what is now the Southwestern United States. The masonry retained the heat of the sun and slowly reradiated that heat throughout the cold desert night.

Craig Eyman, a passive solar home builder in Kansas who uses masonry fireplaces as well as a variety of masonry materials on walls and floors for heat storage, says that his passive solar features usually add no more than ½ of 1 percent to 2 percent to the building cost. He says his homes provide 55 to 60 percent energy savings.

Now, if passive solar is everything we have said it is, then why, you may ask, are we here today asking for financial incentives to give it a boost? Will passive solar not succeed on its own?

The answer is that it probably will, but the economics of the housing industry are such that without financial incentives to homebuilders, passive solar will take a long time to fulfill its potential.

In the legislation before this committee, the Congress has the best available tool with which to insure that henceforth the houses we produce will be energy efficient, and we urge your support of this legislation.

Thank you.

Senator WALLOP. Thank you very much.

Mr. Grossman.

STATEMENT OF NISSIE GROSSMAN, PRESIDENT, NORTHEASTERN RETAIL LUMBERMENS ASSOCIATION

Mr. GROSSMAN. Mr. Chairman and members of the subcommittee, my name is Nissie Grossman. I am the elected president of the Northeastern Retail Lumbermens Association.

Also, I am chairman of the board of Grossman's, an Evans Products Co., with over 350 lumber yards throughout the United States.

Members of our association are playing an active part in the design, promotion, and marketing of passive solar systems.

Retail dealer members are located in every community throughout the Northeast.

We are experienced in dealing with passive solar system components, which essentially are established products put to an improved and expanded use.

Our members are constantly called upon by homeowners, builders, and contractors to provide information on solar energy components and systems.

To fulfill the two-fold purpose of assisting the public and benefiting our members, we are providing extensive passive solar educational programs for our members and their employees.

Energy and energy conservation have been principal topics in our convention programs for the past 5 or 6 years, with this year's theme—Conservation for the Future and Let the Sunshine In. Convention programs focused on the solar theme, and a passive solar structure, called a sun space, was erected on the convention floor to demonstrate the marketing potential of passive solar.

Incidentally, the sun space, is now at our Braintree location and variations of it are used in dealers' showrooms throughout the Northeast.

We strongly support legislation, such as S. 498, which is designed to stimulate a rapid and widespread use of passive solar energy.

We believe that it is in the public interest to encourage a reduced reliance by the Nation on traditional home heating fuels by providing tax incentives for the installation of passive solar heating systems.

Furthermore, passive solar has the potential for easing the especially severe housing crisis that the Northeast area faces due to the combination of skyrocketing energy costs and spiraling mortgage interest rates.

Those two factors make home financing virtually impossible for the vast majority of Northeastern families and have caused our markets to decline sharply.

We hope the Congress will also consider these other benefits of passive solar tax credit legislation:

One. It encourages the application of passive solar designs in a relatively untried marketplace.

Two. It creates, nationwide, an incentive for developing energy-conserving designs.

Three. It promotes energy savings for the Nation by encouraging those who employ those designs to construct energy conserving buildings.

While we are strong supporters of S. 498, we have some specific suggestions which we believe would improve on and further its purpose of eliminating the roadblocks to wider use of passive solar energy systems. We have attached, as exhibit A, our specific suggestions and the rationale behind them. I shall only summarize the principal ones.

First, the legislation appears too rigid in its definition of the type of passive solar system design eligible for the tax credit.

We recognize that the drafters of the bill were seeking to ward off tax cheaters. Unfortunately, in so doing, the law would be limited to only one type of passive solar system design, eliminating some effective variations in design in existence today and removing the incentive to improve the state of the art by developing new, creative, and even simpler designs in the future.

We suggest establishing a procedure whereby passive solar systems which function in an equivalent manner may become eligible for the tax credit. We would offer to work with Treasury, HUD, DOE, and others in the private sector, to establish such criteria.

Second, while it makes sense to extend the tax credit to builders of new homes because they are the basic decisionmakers and risktakers, we see no reason to limit the legislation to new construction or to construction by builders.

Therefore, we urge that the credit be available for passive solar systems added to existing structures either as a retrofit or as the heating source for a new addition and that it be available to those individuals who build or subcontract their own construction.

So doing would fill the void left in the Energy Tax Act of 1978 which, as interpreted by IRS, virtually eliminates incentives for passive solar added to existing structures because many of the components serve a dual function.

We hope that this legislation will progress rapidly through the Congress and that our specific suggestions for improvement and expanding its availability will be adopted.

Thank you for this opportunity to share our views.

Senator WALLOP. Thank you, Mr. Grossman.

Mr. Rouse.

STATEMENT OF THOMAS G. ROUSE, SECRETARY, NATIONAL ASSOCIATION OF SOLAR CONTRACTORS, ASPEN, COLO.

Mr. ROUSE. Mr. Chairman and members of the committee, my name is Thomas Rouse.

I am secretary and board member of the National Association of Solar Contractors.

I am also president of Solar Building Consultants, Inc. in Aspen, Colo.

The members of our association are contractors who specialize in building and installing solar energy systems. We operate small businesses that have engaged in the development of an emerging solar industry.

We represent the front lines—dealing with these issues on a daily basis.

The National Association of Home Builders recently conducted a survey of new home buyers. Seventy-nine percent responded that energy efficiency would be a major factor in buying a new home. The energy supply problem is here to stay. Clearly, we must develop alternatives.

I've heard it said that solar energy won't work. The truth is, solar energy makes all life on our planet possible. Without solar energy it would be about 450° below zero.

Some large corporations claim that the role that solar will play is minimal. The fact is, many new homes receive upward of 80 percent of their heating requirements from the Sun.

Commonsense dictates that the Sun provides most of our heat already, all we need is to extract a little more efficiency from the process.

Recently, OPEC froze oil prices due partly to slackened demand for oil products. A significant reason is the efforts of our citizens to conserve energy and the development of renewable energy sources.

Nowhere is the potential for energy savings more clearly demonstrated than in our Nation's housing industry.

In Aspen, for example, we have over 200 homes that derive a large part of their heating from the Sun. In a climate as severe as the Rockies, some new homes are thermally self-sufficient.

In earlier times, solar heating was a common and natural method of keeping warm. But the advent of coal and oil and cheap utilities caused us to forget about the forces of nature. In the 1930's, Architect Frank Lloyd Wright integrated the natural environment with the homes he was building.

He placed all windows on the south of his buildings to take advantage of the free light and heat of the winter Sun. On the northern side he insulated to reduce heat loss. These are fundamental principles of passive solar design.

New building techniques and materials make it possible for us to reduce our dependency on fossil fuels. Since passive solar requires temperatures of less than 100°, it can be particularly efficient, even on cloudy days. The technology is as effective in Vermont as in New Mexico.

However, as in the application of any new technology, we must go through an initial learning experience. The combined talents and research of diverse groups is required to integrate many factors.

Scientists, architects, and builders have been hard at work since the first energy crises of 1973. Traditionally it takes 15 years to integrate a new building method into the mainstream.

We don't believe that our country can afford to wait that long. A tremendous amount of information must be disseminated to a diffused industry.

This comes at a time when interest rates are at a high, and inflation is driving housing costs higher. The last thing a builder needs is to make his product more expensive.

But the one time capital cost of building solar makes sense when viewed in the light of return-on-investment. A passive solar system can repay itself in a few years, and supply free energy for the life of the house.

A nonsolar home may be cheaper to buy, but will grow increasingly more expensive to operate in the future.

The National Association of Solar Contractors believes that Senate bill 498 will provide a needed stimulus to solve many problems. Just as consumers are demanding fuel efficient cars, so are they demanding fuel efficient homes. Some incentives currently exist, but two vital areas have been overlooked.

First, passive solar has been generally excluded from the benefits of the solar tax credit as defined by the Internal Revenue Service. This is ironic because expenditures for passive solar features are often the most cost-effective ones.

Second, contractors are the key decisionmakers when it comes to building a new house. The responsibility for effective performance rests on his shoulders. Solar energy frequently represents an additional burden in terms of cost and liability.

An incentive for passive solar would encourage builders to try new techniques.

So, housing starts are low. We can boost production in our Nation. We can save energy; the credit would provide exposure for building techniques. We can clarify current regulations that are somewhat vague and contradictory.

Maximum return on investment can be demonstrated, as well as savings of energy. This is happening in places around the country, such as Vermont, particularly in Denver, Colo., where the Solar Energy Research Institute did a demonstration program that was referred earlier; 14,000 people toured the demonstration homes. The lesson is clear.

Advanced design and building methods are beginning to play an important role in energy conservation. Fossil fuels are too precious to waste by burning and floating out the window.

Passive solar offers the commonsense solution to solving residential heating needs. Our industries can make the change, but we need fast and concentrated action.

Enactment of S. 498 will provide the vision and set the trend toward energy self-sufficiency.

Mr. Chairman, the National Association of Solar Contractors endorses this timely and needed legislation.

Thank you for your time and consideration in this important matter.

Senator WALLOP. Thank you, Mr. Rouse.

Just to address a question to the panel—how many additional solar houses would you expect to be built annually if the credit were passed, over and above what the market is already providing, through the enthusiasm that each of you has said the public possesses?

Mr. ROUSE. If I may, probably less than 1 percent of the current housing stock is utilizing this technique.

The technique has something to offer for every building being constructed in the country. It is a commonsense approach that takes advantage of using the south side of a building to cause the building to be its own collector of solar energy.

So, the potential is literally, almost any building that has an appropriate southern view, or orientation toward the Sun.

So we are looking at a very infantile state, at this point, in the development of the industry. But the potential is for most homes in the country.

Senator WALLOP. I guess the difficulty there is, then, in estimating what the revenue effects will be by providing a credit—each of you has spoken about public interest awareness—a desire to——

Mr. ROUSE. Annual housing starts in the United States have been running somewhat slightly in excess of 1 million per year.

And I believe Treasury determined that the anticipated loss over a 5-year period of revenue would amount to about $424 million, through 1988, I believe.

Senator WALLOP. Mr. Grossman, you were somewhat critical, and I gather, have supplied some additional definitions to the bill.

Is there a simple definition of what a passive solar device is?

Mr. GROSSMAN. Well, practically anything that you can take a hold of that will do the job, from placing the house to the South to insulation, to weatherstripping, to thermal mass—can be classified as a solar system.

And it is really the application and the willingness to do this that makes them cost effective and accomplishing an end. And it is the combination of these products, that when properly and intelligently used, will provide the economy and energy use that we will experience.

Insulation in itself has always been a thing that would pay for itself. But now the idea is to promote more insulation.

Get better and more proper air circulation—all of these things tend to make up the energy-saving devices.

Senator WALLOP. That kind of concept, as you can imagine, causes Treasury some real concern.

Mr. GROSSMAN. I beg your pardon.

Senator WALLOP. I said that concept causes the Treasury Department some real concern. If anybody says that anything that does this can be counted as a passive solar device, then you get the problem of what qualifies—you know, how do you define what qualifies so that the Government isn't sitting here subsidizing a lot of other things?

Mr. GROSSMAN. Insulation qualifies today, I believe. Weather stripping will qualify today. They may become more specific, and they limit the things, and say what things and to what extent they will be considered energy saving devices that can come under the act.

Ms. BAGGETT. Mr. Chairman, also, as I understand it, the bill bases the tax credit on the energy efficiency of the system that is used.

So, therefore, it would not be inflationary in terms of—saying you can get a certain percent of the cost of the building materials that were used. It doesn't operate that way. They have a formula to figure out the energy efficiency.

Senator WALLOP. I know, but the formula was under some criticism, because it was too constricted.

That is the point that I'm—you know, how do we get there?

Mr. ROUSE. Mr. Chairman, the State of Colorado last year enacted solar tax legislation similar to the previously enacted Federal legislation.

But they did differ on the issue of passive solar, and they brought out about 10 pages of definitions and guidelines for what a passive solar system is, what percentage is allocable to the tax credit as a system, as opposed to just a hobby greenhouse.

So, there is in effect right now, within the State of Colorado, official legal guidelines for what a passive solar system is.

Senator WALLOP. Would you recommend that the committee look at those guidelines as a means of working at a definition?

Would you submit those guidelines?

Mr. ROUSE. I will be happy to. I have a copy.

Senator WALLOP. Thank you all very much for your time.

[The prepared statements of the presiding panel follow:]

Architectural Aluminum
Manufacturers Association

EXECUTIVE OFFICES
35 EAST WACKER DRIVE, CHICAGO, ILLINOIS 60601
TELEPHONE: 312/782-8256

TESTIMONY

OF

PASCAL DELAQUIL, JR., PRESIDENT

ARCHITECTURAL ALUMINUM MANUFACTURERS ASSOCIATION

ON

SENATE BILL 498

BEFORE THE

SUBCOMMITTEE

ON

ENERGY AND AGRICULTURAL TAXATION

OF THE

SENATE COMMITTEE ON FINANCE

JUNE 8, 1981

EXECUTIVE SUMMARY

Testimony of the Architectural Aluminum Manufacturers Association on Senate Bill 498 regarding Passive Solar Tax Credits, delivered June 8, 1981, to the Subcommittee on Energy and Agricultraul Taxation of the Senate Committee on Finance.

The architectural aluminum industry supports and urges passage of Senate Bill 498 for the following reasons:

* We endorse the effort to provide incentives for using renewable energy resources to help reduce our nation's dependence on fossil fuels.

* We endorse the tax incentives proposed as a means to overcome obstacles now mitigating against widespread use by builders of of passive solar techniques in residential construction. These obstacles include:

  - the fact that home energy savings due to passive solar application accrue to homeowners rather than to builders;

  - that builders are reluctant to add to the cost of a new home, due to market conditions and the possibility of compromising acceptance by buyers or mortgage lending institutions.

The practicality and economy of passive solar methodology have been amply demonstrated by both government and private sector research. Simplified design techniques for maximization of the passive solar potential have been developed. The proposed incentives are necessary to help clear the way for passive solar benefits to begin flowing to the public.

AAMA is a national, non-profit trade association, headquartered in Chicago, Illinois, of approximately 260 member companies engaged in the manufacture of architectural aluminum components for both residential and commercial new construction and retrofit application. Most of these components are key elements of glazing systems, which in turn are basic to passive solar systems.

We would like to take this opportunity to thank Chairman Wallop and the members fo this Subcommittee for the opportunity to express our views on Passive Solar Tax Credit legislation and specifically Senate Bill 498 as introduced by Senator Hart et al.

AAMA is a national non-profit trade association, headquartered in Chicago, Illinois. The association is comprised of 260 member companies involved in the manufacture of architectural aluminum components for both residential and commercial buildings.

The architectural aluminum industry makes a major contribution to the total fenestration or glazing industry. That industry contributes approximately $10 billion in value added goods and services to the annual GNP, and provides employment for approximately a half million people.

In the building industry, AAMA is regarded as the main source of technical research, information and consumer education on architectural aluminum and its uses in commercial and residential buildings.

The lion's share of the products produced by our membership are key elements of glazed components and glazing systems for buildings. Glazing systems, in turn, are major elements of even the most basic passive solar energy utilization systems.

Passive solar systems represent the most cost-effective and easily applied technology for home heating and cooling.

Government agencies estimate that a substantial amount of home heating requirements, depending on geographic location and climate, can be satisfied with passive solar techniques.

Thus, passive solar is not only a sound investment for today but will result in additional future benefits as fuel costs continue to rise. Furthermore, passive solar is a proven technology which can be applied with minimal departure from conventional residential designs and average finished home costs. For example, new homes can be constructed with larger proportions of glazing on south-facing exterior walls, and with eaves placed to block out the direct rays of the high summer sun while admitting the low winter sun to heat the interior. Such techniques may be implemented without having to depend on mechanical systems.

The only missing ingredient has been quantified design data to allow architects and builders to optimize building designs for maximum beneficial passive solar utilization. It is true that using glazing to act as a solar collection device has been an intuitive concept which architects have long translated into a subjective preference for southerly exposures. However, this technique has not been factored into engineering planning or quantitative data. Recent energy

conservation concerns have provided the impetus to develop a scientific approach to passive solar design. AAMA has contributed to the effort to provide such design tools to enable the builder to take full advantage of practical passive solar techniques that are highly efficient in cost payback.

These AAMA efforts, and those of other industry associations, are, of course, complementing the pioneering work of the Departments of Energy, Housing and Urban Development and Commerce in providing sound passive solar design data.

We support the proposed legislation for two principal reasons: First, we endorse the effort to provide incentives for using renewable energy resources to help reduce our nation's dependence on fossil fuels.

Second, we support this legislation because the building industry needs the incentive to incorporate passive solar designs. Despite passive solar's obvious economic advantages, these savings accrue to the homeowners, not to the builder. In addition, builders and developers, who must compete in an extremely tight market for investment capital, are understandably reluctant to make any addition to a home which might add to its costs, or which might limit its acceptance by the public or mortgage lending institutions. If builders are reluctant to produce homes with passive solar features, such homes will simply not be available for homebuyers to realize their economic and energy saving benefits. The proposed legislation will give builders the needed incentive to overcome these obstacles, spur the growth and commercialization of the passive solar market, and enable homebuyers to combat increasing energy costs.

In short, the methodology exists, the technology is proven, and the needs for energy savings and incentives for the building community are clear.

For these reasons, AAMA supports Senate Bill 498 and urges its passage and implementation.

TESTIMONY OF L. GERALD CARLISLE, TREASURER OF THE INTERNATIONAL UNION OF BRICKLAYERS AND ALLIED CRAFTSMEN, BEFORE THE SENATE SUBCOMMITTEE ON ENERGY AND AGRICULTURAL TAXATION ON S. 498

I am L. Gerald Carlisle, Treasurer of the International Union of Bricklayers and Allied Craftsmen. We appreciate this opportunity to testify in support of passive solar energy tax credits as embodied in S. 498 and H.R. 1960. The Masonry Industry Committee, of which the Bricklayers' Union is a member along with the Brick Institute of America, the Laborers International Union of North America, the National Lime Association, the Mason Contractors Association of America, the International Masonry Institute, the National Concrete Masonry Association, and Portland Cement Association, also strongly supports passive solar tax credits.

The masonry industry has for almost seven years been deeply involved in questions of energy conservation and efficiency in buildings. We have made deep commitments of money and time to research pilot projects and other endeavors aimed at studying the energy performance of buildings and building components, and at discovering better ways to design and build structures so that they will be more energy efficient.

I wish to be brief and direct about what we have found out. There is still a great deal that is unknown about the thermal performance of buildings, but there is no doubt that passive solar design provides the best, most practical and most cost effective way to make buildings more thermally efficient. Because passive solar design reduces the amount of fossil fuel derived energy needed to heat and cool buildings, it will save consumers and our nation significant amounts of money.

We say that passive solar design is the best way because it is a natural, non-polluting, non-depleting approach to the energy problem.

We say that it is the most practical way because the design and application technology of passive solar is well known. The products already exist. Designers understand how to make it work. Contractors are ready to bid the jobs. And craftsmen

are available and prepared to do the work. For the fact of the matter is that passive solar requires nothing new. Throughout history people have understood and used passive solar design. All we need to do is re-learn an approach to building design that was commonplace until this century and the era of deceptively abundant and cheap energy.

We say that passive solar is the most cost effective means of energy conservation and efficiency because it typically can save 50 to 60 percent of a home's heating costs. Furthermore, the elements of a passive solar energy heating system, such as walls, floors, fireplaces, and windows all serve multiple purposes.

Fuel cost savings resulting from passive solar energy systems vary according to factors such as design, orientation, location and climate. These savings can be expected to improve as the costs for home heating and cooling increase; for example, for residential use of electricity, natural gas, heating oil and propane, the Department of Energy projects that the average increase over the next four years will be more than 10 percent per year in real dollars.

Further deregulation of conventional fuels will increase both the demand for and the amount of savings to be gained from passive solar systems. The almost daily strides in the state-of-the-art of passive solar technology will also increase its efficiency and its potential to save money for home owners.

Chuck Ochsner, a builder in Denver, Colorado, reports that the tremendous consumer demand for passive solar has convinced him to change his offerings from almost all conventionally heated homes to 90 percent passive solar homes. When he exhibited a passive solar house in a local "Tour of Homes," more than 14,000 people went through the model and at least 10 duplicate houses were sold during the first three weeks.

Ochsner says that the people want to buy his homes despite high interest rates on mortgages because they feel their initial expenditure will be offset by fuel savings, and they like the way the homes integrate passive solar heating features into an attractive masonry structure.

He estimates that passive solar features add six to eight percent to the cost of his buildings — but with the 60 percent fuel savings projected in his standard passive solar home (the exact amount of fuel consumption is being scientifically monitored by the DOE Solar Energy Resource Institute), the home owner should make up for his initial outlay within just a few years.

In addition to being a superior heat storage material in a passive system, masonry, because of its mass and low conductivity, is an excellent choice for the exterior of any home. Because heat is transmitted through it slowly, less heat is lost to the outside in winter, and less outside heat enters the building in summer.

It was this principle of "thermal inertia" that kept the Pueblo Indians comfortable in their clay-brick adobe dwellings in what is now the Southwestern U.S. The masonry retained the heat of the sun and slowly reradiated that heat throughout the cold desert night.

Craig Eyman, a passive solar home builder in Kansas who uses masonry fireplaces as well as a variety of masonry materials on walls and floors for heat storage, says that his passive solar features usually add no more than one-half of one percent to two percent to the building cost. He says his homes provide 55 to 60 percent energy savings.

Anders Lewis, a builder in New Berlin, Wisconsin, recently ran a classified ad which noted the masonry construction and energy efficiency of one of his passive solar homes and drew more than 1,500 people to the site in one weekend, while conventional homes constructed by other builders had only about a dozen or more visitors.

Now, if passive solar is everything we have said it is, then why, you may ask, are we here today asking for financial incentives to give it a boost? Will passive solar not succeed on its own?

The answer is that it probably will, but the economics of the housing industry are such that without financial incentives to home builders, passive solar will take a long time to fulfill its potential.

Lewis and the other builders mentioned here took some financial risks in entering the new passive solar home market. However, not all builders are willing or able to take such risks, often because of their size.

Home builder representatives will tell you that most of the people and firms who build and sell homes are small businessmen who cannot affort to invest in passive solar design until it is proven that home buyers demand it and will pay for it, or unless there is some other financial incentive.

There is no question that there is a demand today for energy efficient heating and cooling, but with 16 and 20 percent interest rates, home builders and ultimately home buyers cannot afford to pay any additional money up front even for a design that will save them thousands of dollars in the long run.

And so we are convinced that the kind of financial incentive envisioned in the legislation now before this committee is an absolute necessity if our nation and our society and our people are to enjoy fully the fruits of passive solar within the next half century.

Most of our present housing inventory was produced during the era when energy seemed abundant and cheap. It is estimated that in the next 50 years our nation will replace its existing housing inventory with new housing. We now know that our new housing must be energy-efficient housing, which is to say that it must be passive solar housing.

In the legislation before you, the Congress has the best available tool with which to insure that henceforth the houses we produce will be energy-efficient.

The masonry industry has a major role to play in the passive solar field, and we are prepared to respond. We are developing passive solar designs and application guidelines. We are educating our own industry about the use of those materials. We are developing materials that will assist home builders in building and selling passive solar homes.

But what we can do and will do will be fruitful only if there is a practical incentive for home builders to become more actively involved with passive solar.

The practical effects of the legislation before you will be significant, and long term. Passive solar can make a major contribution toward solving our energy problems now; it can ease the economic pressures of escalating energy costs on home owners; and it can help us improve the quality of our houses. It is affordable to the American public. Passive solar is not an untested new technology which requires years of research or billions of dollars to develop, nor does it use prohivitively expensive materials for the ordinary home buyer. Its potential for energy conservation in commercial buildings, hospitals and schools is immense.

For all these reasons, we ask the Congress to pass this legislation, and to do so expeditiously.

Thank you, Mr. Chairman.

TESTIMONY OF THE
NORTHEASTERN RETAIL LUMBERMENS ASSOCIATION
before the
SUBCOMMITTEE ON ENERGY AND AGRICULTURAL TAXATION
COMMITTEE ON FINANCE
U. S. SENATE

on

MISCELLANEOUS ENERGY TAX BILLS

June 8, 1981

MR. CHAIRMAN and Members of the Subcommittee:

My name is Nissie Grossman. I am the elected President of the Northeastern Retail Lumbermens Association.* Also, I am Chairman of the Board of Grossman's, an Evans Products Company, with over 350 lumber yards throughout the United States.

Members of our Association are playing an active part in the design, promotion, and marketing of passive solar systems.

Retail dealer members are located in every community throughout the Northeast.

We are experienced in dealing with passive solar system components, which essentially are established products put to an improved and expanded use.

Our members are constantly called upon by homeowners, builders, and contractors to provide information on solar energy components and systems.

To fulfill the two-fold purpose of assisting the public and benefiting our members, we are providing extensive passive solar

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* The Northeastern Retail Lumbermens Association with offices in Wellesley, Massachusetts, and Rochester, New York, is a broad, service-based trade association representing more than 1,700 retail lumber and building material firms and building material wholesalers and manufacturers in New York State and New England.

educational programs for our members and their employees. Energy and energy conservation have been principal topics in our Convention programs for the past five or six years, with this year's theme--"Conservation For the Future and Let the Sunshine In". Convention programs focused on the solar theme, and a passive solar structure, called a "sun space", was erected on the Convention floor to demonstrate the marketing potential of passive solar. Incidentally, the "sun space", is now at our Braintree location and variations of it are used in dealers' showrooms throughout the Northeast.

We strongly support legislation, such as S. 498, which is designed to stimulate a rapid and widespread use of passive solar energy. We believe that it is in the public interest to encourage a reduced reliance by the nation on traditional home heating fuels by pro iding tax incentives for the installation of passive solar heating systems. Furthermore, passive solar has the potential for easing the especially severe housing crisis that the Northeast area faces due to the combination of skyrocketing energy costs and spiraling mortgage interest rates. Those two factors make home financing virtually impossible for the vast majority of Northeastern families and have caused our markets to decline sharply.

We hope the Congress will also consider these other benefits of passive solar tax credit legislation:

1. It encourages the application of passive solar designs in a relatively untried market place.

2. It creates, nationwide, an incentive for developing energy-conserving designs.
3. It promotes energy savings for the nation by encouraging those who employ those designs to construct energy conserving buildings.

While we are strong supporters of S. 498, we have some specific suggestions which we believe would improve upon and further its purpose of eliminating the roadblocks to wider use of passive solar energy systems. We have attached, as Exhibit A, our specific suggestions and the rationale behind them. I shall only summarize the principal ones.

First, the legislation appears too rigid in its definition of the type of passive solar system design eligible for the tax credit. We recognize that the drafters of the bill were seeking to ward off "tax cheaters". Unfortunately, in so doing, the law would be limited to only one type of passive solar system design, eliminating some effective variations in design in existence today and removing the incentive to improve the state of the art by developing new, creative, and even simpler designs in the future. We suggest establishing a procedure whereby passive solar systems which function in an equivalent manner may become eligible for the tax credit. We would offer to work with Treasury, HUD, DOE, and others in the private sector, to establish such criteria.

Secondly, while it makes sense to extend the tax credit to builders of new homes because they are the basic decision-makers and risk-takers, we see no reason to limit the legislation to new

construction or to construction by builders. Therefore, we urge that the credit be available for passive solar sysems added to existing structures either as a retrofit or as the heating source for a new addition and that it be available to those individuals who build or subcontract their own construction. So doing would fill the void left in the Energy Tax Act of 1978 which, as interpreted by IRS, virtually eliminates incentives for passive solar added to existing structures because many of the components serve a dual function.

We hope that this legislation will progress rapidly through the Congress and that our specific suggestions for improvement and expanding its availability will be adopted.

Thank you for this opportunity to share our views.

* * * * * *

EXHIBIT A

NORTHEASTERN RETAIL LUMBERMENS ASSOCIATION

Specific Suggestions for Improving Passive Solar Energy Tax Credit Legislation

Passive Solar Design Should be Performance Oriented

In the bill, a passive solar system must contain each of five elements--a solar collection area, an absorber, a storage mass, a heat distribution method, and a heat regulation device. Each of these five elements are specifically defined, which results in prescribing only one type of passive solar system design. An effective solar system design need not necessarily contain each of the elements detailed in the statute.

1. Moveable solar collection area

   Passive solar system design does not generally indicate the use of a moveable solar collector. This definition would make most passive solar designs ineligible for the tax credit.

2. Translucent or transparent solar collection area

   It is conceivable that an effective collector made of a solid material could be designed--perhaps in combination with the absorber.

3. Absorber

   This requirement raises the question of what is a "hard surface absorber" and why necessarily does the absorber have to be of a "hard surface"? An absorber can be any surface such as sand, a water wall, and the like.

4. Heat distribution pump or fan

Why name the heat distribution method as including a fan or pump with a horsepower rating of less than 1 horsepower? Would the use of a 1 horsepower motor or a fraction more be significantly devastating? What if the fan or pump were powered by photo-voltaic cells?

5. Heat regulation devices

These are limited to shading or venting mechanisms to control the amount of heat admitted through the solar collection area. This eliminates a potential design which might not control heat admitted through the collection area but would control the amount of heat entering the living area.

6. Storage mass area

The requirement that the storage mass have an area of directly irradiated material equal to or greater than the solar collection area is unclear.

CONCLUSION

It is suggested that rather than prescribing one solar system design by legislative decree, that the bill be amended to provide a mechanism within which Treasury, working with HUD, DOE, and the private sector could extend eligibility to solar systems having elements which function in an equivalent manner to those specified in the bill.

Exhibit A
Page 3

Tax Credit Tables Should Be Accurate and Fair

Preliminary published tables for calculating the tax credit have raised some questions concerning the possibility of inaccuracies and inequities within national regions.

CONCLUSION

We urge the Congress to direct Treasury to work with experts in the private sector, HUD, and DOE, to assure, to the greatest feasible extent, that the tables accurately reflect energy savings factors and variations occurring within different regions of the country.

The National Association of Solar Contractors, Inc.
Suite 928 - 910 Seventeenth St., N.W. Washington D.C. 20006
202-785-3244

STATEMENT BY THOMAS ROUSE

OF

THE NATIONAL ASSOCIATION OF SOLAR CONTRACTORS

RE: S.498; PASSIVE SOLAR TAX CREDIT

before

THE SENATE SUBCOMMITTEE ON ENERGY AND

AGRICULTURAL TAXATION HEARINGS

JUNE 8, 1981

"Our Tradesmen are Craftsmen"

Mr. Chairman and Members of The Committee:

My name is Thomas Rouse. I am Secretary and Board Member of The National Association of Solar Contractors. I am also President of Solar Building Consultants, Inc. in Aspen, Colorado.

The members of our association are contractors who specialise in building and installing solar energy systems. We operate small businesses that have engaged in the development of an emerging solar industry. We represent the "front lines"- dealing with these issues on a daily basis.

The National Association of Home Builders recently conducted a survey of new home buyers. 79% responded that energy efficiency would be a major factor in buying a new home. The energy supply problem is here to stay. Clearly, we must develop alternatives.

I've heard it said that "solar energy won't work". The truth is, solar energy makes all life on our planet possible. Without solar energy it would be about 450°F. below 0.

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No where is the potential for energy savings more clearly demonstrated than in our nation's housing industry. In Aspen for example, we have over 200 homes that derive a large part of their heating from the sun. In a climate as severe as the Rockies, some new homes are thermally self-sufficient.

In earlier times, solar heating was a common and natural method of keeping warm. But the advent of coal and oil and cheap utilities caused us to forget about the forces of nature. In the 1930's, Architect Frank Lloyd Wright integrated the natural environment with the homes he was building. He placed all windows on the south of his buildings to take advantage of the free light and heat of the winter sun. On the northern side he insulated to reduce heat loss. These are the fundamental principles of Passive Solar design.

New building techniques and materials make it possible for us to reduce our dependency on fossil fuels. Since passive solar requires temperatures of less than 100°, it can be particularly efficient, even on cloudy days. The technology is as effective in Vermont as in New Mexico.

However, as in the application of any new technology, we must go through an initial learning experience. The combined talents and research of diverse groups is required to integrate many factors. Scientists, Architects and Builders have been hard at work since the first energy crises of 1973. Traditionally it takes 15 years to integrate a new building method into the mainstream. We don't believe that our country can afford to wait that long. A tremendous amount of information must be disseminated to a diffused industry.

This comes at a time when interest rates are at a high, and inflation is driving housing costs higher. The last thing a builder needs is to make his product more expensive. But the one time capital cost of building solar makes sense when viewed in the light of return-on-investment. A passive solar system can repay itself in a few years, and supply free energy for the life of the house. A non-solar home may be cheaper to buy, but will grow increasingly more expensive to operate in the future.

The National Association of Solar Contractors believes that Senate Bill 498 will provide a needed stimulous to solve many problems. Just as consumers are demanding fuel efficient cars, so are they demanding fuel efficient homes. Some incentives currently exist, but two vital areas have been overlooked.

First, passive solar has been generally excluded from the benefits of the Solar Tax Credit as defined by The Internal Revenue Service. This is ironic because expenditures for passive solar features are often the most cost-effective ones.

Second, Contractors are the key decision makers when it comes to building a new house. The responsibility for effective performance rests on his shoulders. Solar energy frequently represents and additional burden in terms of cost and liability. An incentive for passive solar would encourage builders to try new techniques.

The passive solar tax credit would offer further benefits.

1. Housing starts are low. The incentive would directly stimulate the building industry and increase productivity. In this way, solar energy could compete against other energy industries that receive large subsidies.
2. A well built passive solar home can save 50 million BTU's of heat per year. Multiply that times a million new housing starts and you've saved a lot of energy.
3. The Credit would provide exposure for passive building techniques, helping to transfer information faster.
4. S.498 would serve to clarify current regulations that are vague and contradictory.
5. A maximum return-on-investment will be realised for comparativly low cost.
6. A further reduction in our dependency on world oil supplies will result from the effort.

A few cases illustrate the impact that passive solar can have.

In Vermont, a small private college spent over $40,000 last year for heating. This summer their utility rates will double. The school is engaged in applying passive solar spaces to each building. It is considered to be one of the most profitable investments on campus.

In Denver, Colorado, a special program was instituted to underwrite design costs for builders. 300 people attended the organisational meeting wich resulted in the construcion of 13 passive solar homes. Thousands of Colorado residents viewed the homes during special open-house tours this past spring.

Last year the Colorado State Legislature enacted tax credits for solar energy. The regulations were modeled on the Federal program except that special definitions were made to qualify expenditures for passive solar.

The lesson is clear. Advanced design and building methods are beginning to play an important role in energy conservation. Fossil fuels are too precious to waste by burning and floating out the window. Passive solar offers the common sense solution to solving residential heating needs.

Our industries can make the change, but we need fast and concentrated action. Enactment of S.498 will provide the vision and set the trend towards energy self-sufficiency.

Mr. Chairman, The National Association of Solar Contractors endorses this timely and needed legislation. Thank you for your time and consideration in this important matter.

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PROPOSED GUIDELINES FOR COLORADO TAX CREDITS FOR PASSIVE SOLAR SYSTEMS

Colorado Solar Tax Credits

Colorado solar (renewable energy) tax credits generally follow federal laws and regulations regarding the eligibility of expenditures. Colorado credits are 30 percent of solar expenditures and federal (U.S.) credits are 40 percent of solar expenditures (both have a maximum expenditures limit of $10,000). Energy conservation and renewable energy expenditures are covered by both state and federal credits, but Colorado law specifically includes passive solar energy systems.

The purpose of this document is to establish guidelines for eligibility of passive solar features for the Colorado tax credit only. Additional information on energy tax credits is available from sources listed at the end.

Colorado "Passive Solar" Definition

Colorado HB 1264 (1979) authorizes residential energy tax credits including "passive solar structural features which are designed to provide a calculated net energy gain to the structure from renewable energy sources, but not those parts of the structural system that would be required regardless of the energy source being utilized."

"Passive solar energy system" means an assembly of structural and non-structural elements which are designed as a system to provide a calculated net energy gain to a structure from solar energy, using primarily natural energy flows. "System" means a combination of parts forming a complex or unitary whole. Equipment and materials which generally are combined to form a passive solar energy system include:

(1) Solar energy collection surfaces: south-facing glazing surfaces (like glass or fiberglass) such as windows, skylights, trombe wall glazing, passive solar collectors, greenhouse glazing.

(2) Solar energy thermal storage elements: massive materials (like rock or water) such as masonry floors, masonry walls, phase-change materials, water walls, foundation walls or concrete, sand-filled cement blocks, containers filled with thermal storage materials.

(3) Solar energy control and distribution elements: features to control natural energy flows, such as thermostats, ducts, piping, temperature sensors, dampers, vents, vent dampers, movable insulation devices, heat pipes, overhangs, shading devices, louvers, reflectors, small fans.

These types of building elements are at least partially eligible for the Colorado solar tax credits. However, building elements that serve more than one purpose (some form of which would be required regardless of the energy source being used) are only partially eligible, since only part of their purpose is solar energy use. For example, thick concrete walls may serve as thermal storage, but also serve to hold up the roof; windows may serve as solar collectors, but are also used for light and emergency egress; greenhouses may serve as solar collectors, but are also used for extra living or gardening space. Fifty percent of the cost of multi-functional building elements shall be eligible for the passive solar tax credit, because half their purpose is solar and half is for other purposes. (See below.)

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Eligibility for Tax Credit--"System" Criteria

All qualifying equipment and materials must be integral parts of a system designed to collect, convert, transport, or control energy derived directly from solar energy sources. To qualify as a passive solar energy system, the elements must be designed to work together as a whole and must include solar collection surfaces, thermal storage elements, and control or distribution elements. For example, glass does not qualify unless accompanied by thermal mass; mass does not qualify unless accompanied by solar collection glazing. Items which only incidentally provide passive solar benefits are not eligible. In addition to meeting "system" criteria, the passive solar system must meet other general requirements issued in regulations by the Colorado Department of Revenue for all energy tax credits.

Allowable costs include direct costs associated with the passive solar energy expenditure, including design, construction, installation and equipment costs, but not including owner-labor or finance charges. The burden of proof shall be on the taxpayer, should questions arise, to show that the items claimed are producing a net energy savings to the residence by reasonable calculations. As in all other tax credits, sufficient records should be retained to satisfy audits by Internal Revenue Service or Colorado Department of Revenue.

New construction is only eligible for the first occupant who claims it as principal residence; builders may not claim tax credits on residences built for sale.

Colorado residential solar tax credits apply only to expenditures made on or after January 1, 1980, but before January 1, 1986.

Limitations on Eligibility

(1) Solar energy collection surfaces qualify only if they are:

- oriented within 30 degrees of true south and unshaded on December 21st between 10 a.m. and 3 p.m. Mountain Standard Time (or other five-hour interval). (It is desirable but not required to check zoning and height regulations to see if future construction may shade the collection area.)
- designed in association with some thermal mass materials for storing solar heat collected during the daytime.
- designed in associated with some control mechanisms to retain night-time heat (or close off from heated house) and prevent summertime overheating. Must be double-glazed or provided with movable insulation

SOLAR ENERGY COLLECTION SURFACES	New Construction	Retrofit
South facing windows and glass 100% of collector system glass; 50% of two-purpose glass (windows).	Only glass that allows direct or reflected light to strike thermal mass; not structural elements	Only glass added to the existing structure on the south side, designed with thermal mass.
Greenhouses, Solariums (structural elements & living area)	50% of cost is eligible for system design	50% of cost is eligible for system design
Clerestories (vertical)	50% of cost is eligible; not structural elements	50% of cost is eligible including added structure

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SOLAR ENERGY COLLECTION SURFACES	New Construction	Retrofit
Passive solar collectors (bread-box water heaters, thermosiphon collectors, etc.)	100% of cost is eligible	100% of cost is eligible
Skylights (must have movable insulation to prevent night-time heat loss)	50% of cost is eligible	50% of cost is eligible

(2) Solar energy thermal storage elements qualify only if they are:

- rock, brick, water, sand, dirt, phase change materials or other materials with equal or better heat storage performance, designed with means of distributing solar heat to the thermal storage material.
- primarily for solar heat storage (no hot tubs or swimming pools)
- located within the insulated shell of the building or provided with special movable insulation devices (like solar roof ponds, or with fixed insulation (like detached collector housing with storage).
- designed in associated with solar collection surfaces. (Thermal storage should preferably but not necessarily be located in direct sunlight).

NOTE: With electric back-up heat it may be desirable to include elements for heating thermal mass with off-peak or night-time discount electric rates ordered by the Colorado Public Utilities Commission in a Generic Order or 1979 for solar back-up rates.

SOLAR ENERGY THERMAL STORAGE ELEMENTS	New Construction	Retrofit
Drumwall, water wall, or thermal storage rods	Cost of containers and storage materials is eligible, not extra structural support	Cost of containers and storage material and any added structural support is eligible
Trombe wall or mass wall of masonry, concrete, etc.	50% of cost is eligible, including 50% of foundation for south wall only	new walls only, existing walls not eligible. Cost of painting existing walls is eligible if new paint is darker color than existing wall color
Roof ponds and thermal contact ceilings	50% of solar roof and structural roof costs are eligible	added interior ceilings only if added in association with solar collection surfaces
Rock beds or water tanks (must be within insulated shell, under foundation, or provided with fixed or movable insulation)	100% of cost is eligible, if primarily designed for for solar storage (no hot tubs or swimming pools)	100% of cost is eligible, if primarily designed for solar storage (no hot tubs or swimming pools)

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SOLAR ENERGY THERMAL STORAGE ELEMENTS	New Construction	Retrofit
Masonry floors and walls (must be designed in association with solar collection surfaces and located in direct or reflected sunlight)	50% of cost is eligible, including 50% of foundation for south wall only	100% of cost is eligible for new walls and floors only, and added structural support for same

(3) Solar energy control and distribution elements qualify only if they are:

- designed to use primarily natural energy flows (convection, conduction, and radiation), although small fans or pumps and automatic dampers and movable insultion controls are eligible.
- designed in association with solar collection and solar thermal storage elements.

SOLAR ENERGY CONTROL AND DISTRIBUTION ELEMENTS	New Construction	Retrofit
Movable insulation devices (must have edge seals and rated R-value and vapor barrier)	100% of cost of device is eligible, if part of solar system	100% of cost of device is eligible, if part of solar system
Double shell or thermal envelope construction	50% of extra wall cost is eligible, interior walls costs not eligible	100% of added structure, if designed as solar system
Radiant floor heating systems or convective radiant heating	100% of distribution elements (pipes, ducts, heat exchangers, etc.) are eligible if designed as solar system	100% of added elements only if designed as solar system
Ducts, fans, pipes, pumps, vents, vent dampers, operating mechanisms for vents and vent dampers, valves and associated insulation	100% of the cost of these mechanisms is eligible if designed as part of solar system	100% of the cost of these mechanisms is eligible if designed as part of solar system
Monitoring devices and thermostatic controls	100% of the cost of these items is eligible if part of solar system	100% of the cost of these items is eligible if part of solar system
Reflectors, mounting equipment, bracing and framing	100% of the cost is eligible if part of solar system	100% of the cost is eligible if part of solar system
Heat pipes or passive heat transfer mechanisms including convective heat exchangers	100% of cost is eligible if part of solar system	100% of cost is eligible if part of solar system
Shading devices such as overhangs, movable insulation	100% of cost of shading south-facing glass only is eligible	100% of cost of added elements only is eligible

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Items Which Are NOT Eligible

- solar cookers
- alcohol stills (see Commercial and Agricultural tax credits)
- saunas, hot tubs, swimming pools, or swimming pool covers
- woodstoves, fireplaces or chimneys (masonry or other)
- vegetation and landscaping, organic waste piles
- underground building excavation costs (see energy conservation tax credits)
- earth berming or drainage mechanisms
- flourescent or electric lights
- back-up heating system using non-renewable fuel sources
- owner's labor or cost-free labor
- equipment for electrolysis of water
- evaporative coolers or cooling towers
- super insulation (see energy conservation tax credits)
- ground-source heat pumps (solar assisted heat pumps integrated with active solar collectors qualify as active solar systems)
- planting beds for greenhouses
- drapes or curtains which don't have edge seal, rated R value, and vapor barrier

Glossary of Terms (Terms will be defined in final draft)

- clerestories
- berm
- convection
- insolation
- magnetic south
- concentrating collector
- movable insulation
- reflected radiation
- R-value
- open-loop
- thermosiphoning
- flow rate
- degree day
- heat exchanger
- eutectic salts
- direct-gain system
- active system
- passive system
- differential thermostat
- hybrid system
- sensor
- tilt angle

Sources of Further Information

- Colorado Office of Energy Conservation, 1600 Downing St, Denver, CO 80218 (303) 839-2186
- Colorado Dept. of Revenue, Capitol Annex Bldg, Denver, CO 80203 839-2801
- U.S. Internal Revenue Service, Denver District Office, 1050 17th St., Denver, CO 80203, 825-7041. Toll free #1-800-332-2060
- Denver Energy Extension Service Center, 1290 Williams St., Denver, CO 80218 393-0168.

Senator WALLOP. We will now hear from the next panel of: Tom Gibson, Harry Pryde, and Dr. Judith Johnsrud.

Mr. Gibson.

STATEMENT OF TOM GIBSON, REPRESENTING PASSIVE SOLAR INDUSTRIES COUNCIL, ALEXANDRIA, VA.

Mr. GIBSON. Yes; I thank you for your patience, Mr. Chairman.

My name is Tom Gibson. I am chairman of the legislative group for the Passive Solar Industries Council. I am also director of government relations for the Brick Institute of America.

What I would like to briefly discuss are who the major members of the Passive Solar Industries Council are, and I think perhaps in identifying the diverse members of our group, I can briefly rehearse what passive solar is, and how the tax credit formula contained in S. 498 is designed.

PSIC is a newly formed coalition of construction trade groups which represent nearly every facet of the building industry. The National Association of Home Builders joins the American Institute of Architects, the Brick Layers Union, my group—the Brick Institute of America, and numerous other construction product manufacturers, such as the National Forest Products Association, the National Concrete Masonry Association, the National Fenestration Council—the glass people, the Mineral Insulation Manufacturers, and numerous other professional business and labor groups, which were represented on the first panel.

It could well edify the committee if I rehearsed the other names which include the Portland Cement Association, the American Wood Council, the National Woodword Manufacturers Association, the Solar Energy Industries Association, the National Lumber and Building Materials Dealers Association, the Passive Solar Products Association, the Industrial Fabrics Association, the Tile Council of America, the Expanded Clay and Shale Institute, the International Masonry Institute, the National Ready-Mix Concrete Association, the Building Owners and Manufacturers Association, the Sealed Insulating Glass Manufacturers Association, and the National Association of Solar Contractors.

PSIC's major effort at present is to serve as the primary clearing house for technical and promotional information on passive solar building systems. To an extremely fractionalized industry, to say the least, as I've just read the names, that of the building community. As you may suspect, from the membership of PSIC, a passive solar building system is not a single gadget or device that can be tacked on in most cases, to an existing structure to convert solar energy into home heating energy.

Passive solar energy production is the integration of design technology, expert craftsmanship, and quality building materials, which when combined in concert with the environment, will reduce—by up to 80 percent—the home heating cost of residential and commercial buildings.

It is correct to say that state of the art, passive solar technology, has arrived, and is ready for the market place.

The Tennessee Valley Authority, my own organization, and many groups represented here today, have sponsored demonstra-

tion projects where passive solar homes of convention appearances, not necessarily space houses, have performed extremely well.

Perhaps the best evidence, indeed, that passive solar is ready for the market place comes from OMB, where in this year's budget, they instructed the Department of Energy to get out of the business of research and development and demonstration of passive solar, because it is indeed ready for the market place.

The beauty of a passive solar system and the proposed tax credit for builders is in its simplicity. A genuine passive solar system requires five elements: A solar collection area, which essentially is south-facing glass or some other glazing material, and a means of absorbing, storing, reradiating, and regulating the solar energy collected through the glass.

Nearly all of these functions can be accomplished by using masonry, water, or other substances in the interior of the residence, in combination with venting systems.

The tax credit proposal will require all of the aforementioned components in the system. And I would like to submit for the record additional documents which describe this process.

The tax credit would then be granted to a builder of a qualifying system on the basis of how much energy is saved in conventional fossil fuel heating loads.

The three factors involved here are the geographic location of the home, as determined by the closest of 219 cities, the solar collection area, or the total amount of area of south-facing window glass, and the house's heating load, which is primarily a function of its size.

The builder then determines the passive solar rating, which is the area of south-facing glass over heating load, which is measured in Btu's per hour degree Fahrenheit. The reading is then justified with the location of the nearest city, and the performance tax credit, based up to $2,000 is awarded.

This method of computation has heretofore been certified by a former Department of Treasury official.

And, of course, he is not here now. Of course, we recognize the price and cost of energy will continue to touch our lives in every way that we might imagine. And I would like to cite a number of impressive sets of numbers which describe the dollar and energy savings in a national sense, its potential impact on inflation, and the consumer benefit. But I believe we have other members on the panel to do that.

Senator WALLOP. You may submit for the record any mention of your remarks.

Mr. GIBSON. Thank you.

Senator WALLOP. Mr. Pryde.

STATEMENT OF HARRY PRYDE, VICE PRESIDENT-TREASURER, NATIONAL ASSOCIATION OF HOME BUILDERS, SEATTLE, WASH.

Mr. PRYDE. Mr. Chairman and members of the committee, my name is Harry Pryde and I am a homebuilder from Seattle, Wash.

I am testifying today on behalf of the more than 123,000 members of the National Association of Home Builders (NAHB) of which I am vice president and treasurer.

NAHB is the trade association of our Nation's homebuilding industry. Accompanying me today are Robert Bannister, senior staff vice president for governmental affairs and Joseph McGuire, energy legislative representative.

We appreciate the opportunity to present our views on S. 498, a bill to provide a tax credit to homebuilders for the construction of residences incorporating passive solar design.

NAHB strongly support legislation to provide incentives for the construction of passive solar residences. Our support of S. 498 is based upon careful consideration of many alternative energy techniques and how they may be applied to residential construction.

In a recent consumer survey conducted by the NAHB Economic Department, nearly 80 percent of the respondents indicated energy efficiency as an important factor when considering the purchase of a new home.

We believe that our members have responded to our present energy dilemma well in the products they provide. The energy efficiency of the homes built by NAHB members increased by over 34 percent in the period of 1974–78. Since that time, builders have continued to increase the level of thermal protection in new homes.

In addition, recent trends by our builders to increase thermal protection add to solar's economic justification, since the first step in the application of solar energy is to increase the level of thermal protection.

One of the most promising opportunities for the construction of energy efficient residences is passive solar design. A passive home, through its design, takes best advantage of the Sun's rays for heating and lighting. In a passive system, the various building elements themselves are used to collect, store and distribute solar heat, coolness and natural light—minimizing dependence on either fossil fuels or mechanized equipment.

Homes heated by passive solar systems can in some instances consume as little as 30 percent of the energy used by conventionally heated homes. However, passive solar designs are being employed by only a fraction of homebuilders today.

The present state of the economy and the housing industry is such that few homes, let alone passive solar homes, are being built today. Today's record high interest rates make the building and purchasing of new homes a near economic impossibility.

The latest projections of the NAHB econometric model forecast shows an 8.4-percent decrease from the depressed starts rate of 1980 of 1.3 million units to 1.183 million in 1981. Even if there is a gradual decline in interest rates, we still believe that mortgage rates will remain high—probably in the 14.0- to 14.5-percent range by the end of the year. Our industry faces at least another 6 months of dismal performance, with a slight improvement by the end of the year.

Mr. Chairman, the major reason why only a fraction of NAHB member builders are using passive solar is the added financial risk involved. Builders can not afford to take additional risks in light of present interest rates. Forty percent of our builders construct fewer than 10 houses a year. Passive solar homes at present require additional front end costs.

The extra costs of a passive solar home can run upward of $5,000. Passive solar homes, for the most part, are different in appearance than conventional homes. Builders can not take the risks to build homes that will result in higher purchase prices with unproven market acceptance.

Because of the high interest rates, homebuilders are doing everything possible to keep down the costs of new homes. An increase in the front end cost of a new home of $1,000, $3,000, or $5,000 substantially reduces the number of families able to qualify for purchase.

At current interest rates fewer than 6 percent of the working families could qualify for the median priced single family home.

Mr. Chairman, we believe that S. 498 provides the necessary incentive to the homebuilder to build passive solar homes and begin the transition to the construction of the most energy efficient home possible. This legislation provides an up front credit to the builder which will lessen the risk of building a passive solar home.

The amount of the tax credit available to the homebuilder will enable him to price the more energy-efficient passive solar home in a more competitive range with conventional homes.

This pass-through feature has proven effective in California where a State passive solar tax credit is available to builders.

In a nationwide survey of NAHB members conducted last year by the NAHB Research Foundation, over 80 percent of those responding indicated that a tax credit would encourage them to use more passive solar techniques in the homes they build.

Today, passive solar homes are being introduced primarily in custom built, high priced homes on larger lots where added cost is not prohibitive and where more advantageous orientation on lots can be achieved.

Although nearly eighty percent of the respondents to NAHB's recent consumer survey indicated energy efficiency as one important factor in purchasing a new home, only 12 percent indicated a willingness to buy a smaller home.

This indicates that although consumers recognize the importance of energy, their traditional demand patterns for new homes are slower to change.

The passive solar tax credit legislation before the committee provides a simple and workable definition of a passive solar system.

Hesitancy in the past by homebuilders to support previous passive solar tax credits hinged upon the vague definition of passive system.

A definition based on the cost of components gets bogged down in separating the costs of the components' structural versus energy purposes.

Mr. Chairman, there is another feature of S. 498 which NAHB considers very important. The restoration of health to the housing market is contingent on a stable economy and a reduction in Federal spending.

The revenue impact of the passive solar tax credit as projected by the Joint Taxation Committee is only $7 million for fiscal year 82 and $369 million through fiscal 1987.

According to DOE figures, the savings in energy costs for that period and for the life of the homes built in that period would be more than justified.

Mr. Chairman, thank you for this opportunity to present our views.

If you have any questions, we would be happy to respond to them.

Senator WALLOP. Thank you, Mr. Pryde.

Dr. Johnsrud.

STATEMENT OF DR. JUDITH JOHNSRUD, CHAIR OF THE BOARD, SOLAR LOBBY

Dr. JOHNSRUD. Chairman Wallop, members of the committee, I am Judy Johnsrud, chair of the board of the Solar Lobby.

I am pleased to have the opportunity to appear before this committee in support of a tax credit to homebuilders for the construction of residences incorporating passive solar design and building techniques.

The Solar Lobby is a research and advocacy group based in Washington, D.C., supported by contributions from over 35,000 members who believe that an expeditious transition to the use of renewable energy resources, combined with aggressive programs of energy efficiency, are the only basis for sound energy policy.

I bring to my testimony today the perspective of the geographer, in which field I hold a doctorate, having specialized in the areas of energy resource distribution, utilizations and impact.

I want to address the issue of passive solar tax credits for residential builders, a move which we strongly support, from the point of view of consumers—and at least equally significantly—from the perspective public energy policy over the longer range.

There can be no question that our Nation has now recognized the finite nature of nonrenewable energy resources. The events of the 1970's have fully clarified, furthermore, the fragility of our national well-being, so long as we are dependent upon interruptable energy supplies.

I should like to add here, Mr. Chairman, that I am deeply disturbed by the report within the last hour, on the news, that an Iraqui nuclear reactor has been bombed, and apparently, destroyed, which underscores, of course, the defense aspect of our dependence for electricity supply upon nuclear power reactors.

The rising costs of recovery, in the economic vein, of our evermore scarce fossil fuels, are underlining the Nation's needs to accelerate the recent trend toward greater efficiencies in energy consumption.

Now if we may reasonably assume that the public as a whole requires approximately a decade to absorb new ideas and new ways of doing things before taking action themselves, that are based on those new ideas, then I think we find ourselves, now, in the early 1980's, with a contradictory situation that the bill before you will markedly help to resolve.

Homeownership, certainly, continues to be a national ideal. Residential construction and financing costs have, however, skyrocketed to the point where many potential home buyers are simply being priced out of the market.

We certainly cannot reasonably expect the builder to absorb the full financial risk of constructing energy-efficient passive solar features into new residential structures, in a housing market where so few know and understand the advantages of passive solar construction. And in a market that already is leaving the potential home buyer absolutely breathless.

Thus, to serve our national policy interests, of using our diminishing, nonrenewable energy sources carefully and wisely, we need to provide the mechanism that will aid the residential builder to be able to construct those passive solar systems, and at the same time assure that by doing so, the builder does not price his product beyond the consumer's means.

Passive solar construction is a basic technology, at least as important—in both the near and long term—as active solar technology. Yet through a series of interpretations, the residential energy tax credit covers active installations and excludes almost all portions of a passive system. One even wonders if the administration is aware of this discrimination, as they write confidently of an energy policy which stimulates solar use through the price of fuel and existence of tax credits.

To balance incentives, the solar bank was being planned to emphasize passive. It now appears unlikely that that bank will be functioning in the immediate future, and we must turn to other means.

We need a comprehensive national strategy for encouraging passive solar construction, and the tax credit to homebuilders is the centerpiece of that strategy.

In my own community, in the cloudy Pennsylvania mountains, hardly an ideal local for solar construction—I've learned just this week of only a handful—but nonetheless, a significant handful, of new passive solar designs being built in new development.

I would like to think it is a portent of the future, that it is called Cellar's Lane, and will encourage homebuilders to follow suit.

These home buyers, however, are in that minority who can afford custom built homes. They are fully willing, furthermore, to pay the initial, higher cost for a passive design, in order to obtain a longer range savings.

Our national energy utilization interest would be well served if all new home buyers were able to obtain, similarly, the benefits of passive solar design from the speculative homebuilders, who would be provided with the necessary incentive to incorporate passive solar features into their new construction by congressional approval of the proposed passive solar tax credits.

We do strongly support this move. We hope that it will proceed expeditiously to help resolve the energy crisis that we all know lies ahead.

Thank you, Mr. Chairman, and I would be glad to answer any questions.

Senator WALLOP. Thank you, Dr. Johnsrud. Can anybody on the panel tell me what section of the country is most active in the building of passive solar housing?

Is there one that leads another?

Mr. PRYDE. Mr. Chairman, it is our understanding that the New England States are the most active in the country at the present time in the use of passive solar.

Senator WALLOP. The New England States?

Mr. PRYDE. Yes.

Dr. JOHNSRUD. I believe that the studies, Mr. Chairman, project that in the next 10 years, with or without this kind of stimulation—however, the larger use will then shift to—the larger penetration being in the West, the Southern States the next penetration, and then the Northeast. They expect a shift in that direction.

Senator WALLOP. Given all the problems of the housing industry, there are probably things on your priority list to take care of your ailments that are above this.

Mr. PRYDE. That is true.

That is an understatement.

Senator WALLOP. I guess one of the things that will be of concern to Congress in the time of generally short supplies of dollars to provide incentives is to be persuaded that something which has had the remarkable sales pitch and high level of public acceptance, that every witness has brought to the argument today—that there are not things that might better be done with tax dollars right now.

I mean, virtually everybody has cited statistics of public acceptance that is to be paid back in 2 to 4 years, and these kinds of projects. The statement, I think you made, Mr. Gibson, is that the OMB has suggested that the marketplace is here, and that it is now.

And so, why would a government which is very short—as anybody who reads any papers knows—of wanting to provide incentives or services, go in the direction of a technology whose marketplace is here?

Mr. GIBSON. I could address a few points on that issue.

The homebuilders, very neatly stated, that the circumstances of the building industry now and for the foreseeable future, will not accommodate novel technologies.

And so we make the first point that it is a national priority, given projected energy savings that acceleration of passive solar will benefit the whole.

Perhaps free market will accept passive solar in the next 10 to 15 years. We are saying that in the next 5 years, a dollar invested in passive solar will have a $17 payback in per equivalent energy savings down the road and into the next 30 years, given the life cycle of a house.

There are plenty of numbers to demonstrate that fact.

I would make another point, though, which has to do with the nature of the industry, period.

We are not an industry which manufactures a product where a fractionalized group which is called the building community—this is a novel technology. It has been proceeded by more exotic forms of solar heating units, some of which have been maligned in certain arenas.

The Government's presence in offering a tax credit, not only to builders, but then perhaps indirectly to consumers, would act, in a sense, to certify the fact that passive solar is real, it works, and it will promote cost savings down the road.

So that intangible certification would indeed greatly benefit passive solar. We see that as being a nice aspect of the credit.

Mr. McGUIRE. Mr. Chairman, one of the problems right now with homeownership for young families is the high interest rates, in the fact that you add $2,000 in the cost of a new home—you are pricing out of the market somewhere in the neighborhood of 700,000 first time buyers. And this is a major deterrent in the marketplace for getting into passive solar.

The other point is that the homebuilders of this country are in a position where they are not about to take an additional risk in the current climate, with high interest rates, with the fluctuation of prime being so dramatic, of being able to carry a home, not knowing what the prime is going to be. And if it is in the neighborhood of 20 percent it is detrimental for those small businessmen to take the risk to increase the cost of the home, even $2 to $5,000.

Senator WALLOP. I don't quarrel with that. But I think that was the thrust of my previous question. There are other things that would bring the housing industry free from its doldrums a good deal quicker, and perhaps, bring along with it solar development.

Mr. PRYDE. We would see, Mr. Chairman, as this helping to move the industry somewhat out of the doldrums.

It would be an incentive. As a builder, I would see from my own personal standpoint that this would be a small incentive to make a difference in what is happening right now.

Along with helping to lessen our dependence on OPEC oil, which is the overall national goal, for the future.

Senator WALLOP. Dr. Johnsrud?

Dr. JOHNSRUD. Mr. Chairman, while the immediate benefits to the housing industry itself as incentives would be very important, I think that we need to understand the significance of the longer range impact on our energy supplies for the United States as a whole, and hence the larger public policy issue involved.

I might add, however, that if we look for comparison to the automobile industry, it took a good swift kick from that competition coming from abroad to cause the American industry to move in the direction of the smaller automobiles that consumer's demanded.

In this instance, we are in a very difficult situation. Those of us who would like to purchase passive solar homes, if those aren't available, most of us really cannot afford the custom built design.

And so, any mechanism for striking at those who are really the ones that make the decision that will affect all of the purchasers, or most of the purchasers—I think would be a boon to national energy policy, and the satisfaction of the demand, along with providing American home-grown jobs in the housing industry.

Senator WALLOP. I don't think anyone quarrels with that.

But I think that one of the things that you have all witnessed today—having stated the enthusiasm of the public to look at solar homes and order 14,000 new ones built, and all of those things that have come by way of demonstration of this technology around the country—that you are going to have to spend some time, from the philosophical standpoint expanding the point that you are making on national policy over and above the marketplace, which "has arrived."

It is going to be difficult because everybody is competing for a dollar in this government today. Everybody, including the deficit, and it is competing harder than most.

We have got a problem, that is all I am trying to say. It is a sales job, you started well, but I think we will have to continue it.

I thank you all very much for appearing here this morning. Your testimony has been most helpful.

[The prepared statements of the presiding panel follow:]

STATEMENT OF THE PASSIVE SOLAR INDUSTRIES COUNCIL

PRESENTED BY

THOMAS GIBSON, CHAIRMAN, PSIC LEGISLATIVE COMMITTEE

BEFORE THE SENATE FINANCE COMMITTEE

UNITED STATES SENATE

JUNE 8, 1981

The Passive Solar Industries Council appreciates the opportunity to present testimony to this committee supporting S. 498, the Builders' Tax Credit for Passive Solar.

PSIC is a federation of trade associations, professional groups, labor unions, businesses and individuals representing virtually every aspect of the building construction industry. PSIC was organized to facilitate communication and cooperation both within the construction industry and between industry and government, with a goal of accelerating the development and commercial acceptance of passive solar technology and products.

Council membership includes national organizations representing builders, architects, engineers, remodelers, product manufacturers, labor, material suppliers, lumber dealers, building owners, and researchers.

I am speaking to you today on behalf of the National Association of Home Builders, the American Institute of Architects, the International Union of Bricklayers and Allied Craftsmen, the Portland Cement Association, the National Forest Products Association, the American Wood Council, the National Woodwork Manufacturers Association, the Architectural Aluminum Manufacturers Association, the Solar Energy Industries Association, the Northeastern Retail Lumbermen's Association, the National Lumber and Building Materials Dealers Association, the National Home Improvement Council, the National Sash and Door Jobbers Association, the Passive Solar Products Association, the Industrial Fabrics Association International, the National Fenestration Council, the Tile Council of America, the Expanded Shale, Clay, & Slate Institute, the International Masonry Institute, the National Association of Solar Contractors, the National Ready Mixed Concrete Association, the Sealed Insulating Glass Manufacturers Association, the Building Owners and Managers Association and the National Concrete Masonry Association.

All of these diverse organizations see profit potential in the market for passive solar buildings, and believe financial incentives like the Builders' Tax

Credit for Passive Solar are necessary to accelerate the commercial application of this technology.

WHAT IS PASSIVE SOLAR DESIGN?

Passive solar is common-sense design that takes advantage of the sun and the home's natural environment to provide heating and cooling. Unlike active solar applications, passive designs use little or no mechanical hardware, relying instead on common building materials to capture and store the sun's energy.

While passive solar homes constructed a few years ago tended to look "experimental," today's passive designs are well integrated into a wide range of architectural styles. Passive solar homes include design features that have buyer appeal as well as an energy-conserving function: Living spaces bathed in sunlight; open spaces, balconies, and lofts to circulate the sun's warmth; and masonry and tile walls, floors, and fireplaces to store heat. The growing sophistication of passive design has led to a major breakthrough in the marketability of passive solar homes.

Not only are today's passive solar homes beautiful; they are also affordable. Passive solar homes generally cost just a few thousand dollars more than similar conventionally heated homes. However, that extra cost constitutes an extra financial risk to builders that they cannot bear in the current market.

Mechanical breakdowns are not a problem with passive solar homes because passive design uses little or no mechanical equipment. Well designed passive solar homes inevitably save homeowners energy and money.

The housing market of the 1980's will belong to builders and product manufacturers who meet the challenge of our energy crisis. Passive solar design is a marketable idea whose time has come. The businessmen who are trying to get a foothold in this promising market face nearly insurmountable problems, however; problems that can only be overcome by financial incentives like the Builders' Tax Credit for Passive Solar.

WHY GIVE BUILDERS FINANCIAL INCENTIVES FOR CONSTRUCTING PASSIVE SOLAR HOMES?

Home builders are very slow to change the way they design and market their homes. The residential construction market is volatile and risky; once a builder develops a "success formula" for selling homes in his area, he is not likely to want to try anything new. A look at some of the facts of life in the home building business will make it easier to understand this "Go Slow" approach:

Profit and overhead account for account for about 12% of the selling price of a new home. In a typical year, overhead might account for 4% and profit 8%. But good years are not that frequent in the home building business. In slower years, like 1981, profit is closer to 4% and overhead 8%.

A builder stands to make between $2,772 and $5,544 on a new $69,300 home. Assuming he borrowed $60,000 to finance construction at 21% interest, a builder pays $1,050 a month in interest on the home. Every month the home doesn't sell the builder could lose $1,050, which accounts for a sizeable chunk of his profit. The Builders' Tax Credit for Passive Solar would cover about two months of carrying costs.

Builders never know when the Federal Reserve Board will attempt to control inflation by driving up interest rates. It happened last year, sending the housing start rate plummeting to 1.3 million--almost half the healthy 1977 and 1978 start rate. In those years builders were just recovering from the 1973-74 housing slowdown, also caused by artificially high interest rates.

Home building firms survive the cyclical gyrations of the housing market only by making enough money during housing booms to sustain their business during housing recessions. Consequently successful home builders do not take extra risks.

Constructing a passive solar home constitutes an extra business risk in two ways. First, there is added financial risk because of added construction

costs--generally passive systems add 3% to 5% to construction costs. Secondly, passive introduces an extra element of uncertainty in marketing. If a home sells slower because it is passive, a builder will lose money because of extra carrying costs.

What the Credit Can Do

The builder's tax credit for passive solar can cover part of a builders' risk in constructing a passive solar home. The $2,000 maximum credit does not cover all of the additional construction costs of a passive home, but it does compensate the builder for his financial risk and for the time invested in learning this new design method.

The Leveraging Effect of the Credit

Once a builder has learned to successfully market passive solar homes, he will continue to build them without a government incentive.

The builders' tax credit for passive is a small program that can have a big impact. The credit is designed to overcome the market factors in the residential construction industry that slow adoption of technological innovation. Once passive solar homes have penetrated a threshold portion of the new construction market, a normal demand pull will stimulate rapid expansion of passive solar home building.

It is important to work through home builders because most Americans cannot afford to custom-design their own home; they choose a new home from the speculatively built models available in their area. Unless builders decide to include passive features in their new homes, middle and lower-income buyers are forced to purchase conventionally heated homes even if they prefer a home with energy-saving passive solar design features. About 60% of the new homes

constructed each year are speculatively built, meaning design decisions on those homes rest with the builders. A substantial portion of the remaining new homes are owner-built from stock plans that also fail to offer passive features.

When American home buyers have had a chance to see the practical, common-sense principles of passive solar design work for their neighbors, they will naturally want passive design features in their own homes. Builders will provide passive homes if they are sure they can sell them. It is in the national interest to speed this process; without direct financial incentives, it may take a decade or more for home builders to realize the opportunities presented by passive solar design.

Economic Impact of the Credit:

A DOLLAR INVESTED MEANS MANY DOLLARS (AND BARRELS OF OIL) SAVED

In strictly dollars-and-cents terms, the builders' tax credit for passive solar is a practical investment of government funds. The nation will save at least $17 in imported oil costs for every dollar invested in the program.

The tax credit will cost the Treasury an estimated $135 million over 5 years. The passive solar homes built under the program will save an amount of energy equivalent to $2.3 billion worth of oil during their expected 30-year life, based on a conservative average oil cost of $60 per barrel over the next 30 years and on conservative estimates of the number of builders that will take advantage of the credit. Every dollar invested by the federal government in the program enables the federal government, in effect, to purchase energy equivalent to one barrel of oil at $4.61.

These projections consider only the savings expected in the energy consumption of the homes built under the program. Actual savings will be

much, much higher.

There is no way to estimate the number of passive homes that will be constructed in a market stimulated by availability of the credits. The main goal of the tax credit program is to create a "multiplier effect" in non-subsidized construction. The above projections do not account for the millions of new passive homes that would be constructed without government subsidy after the credits are terminated in 1987. The projections also do not include effects on the home improvement market. New construction sets tastes in this sector. More homeowners will opt for energy-saving improvements such as attached greenhouses when they see these features in new homes in their area.

This tax credit program also has important secondary economic impacts. Encouraging construction of energy-saving homes effectively boosts the purchasing power of an important sector of the consumer market. Owners of passive solar homes save from 30% to 80% on their fuel bills. Money not spent on fuel can purchase other goods and services.

The credit would also help assure a market for innovative new products being developed for passive solar buildings. Manufacturers of these products are currently in a high-risk market situation. A small boost now can pay enormous dividends later in proliferation of energy-saving construction products.

By stimulating market demand for passive solar products the Builders' Tax Credit for Passive Solar can help save small entrepreneurs who have good, marketable products but are on the verge of bankruptcy due to the current housing slump. These businessmen have risked their capital to produce specialized

passive solar products that would be in great demand in a healthy market. Under current conditions they have not received sufficient orders to justify mass production.

For example, a number of manufacturers have engineered passive solar greenhouses or solaria that have enormous potential in the retrofit market, but these manufacturers lack funds for market promotion. Manufacturers of thermal storage products, glazing systems, movable window insulation, and control motors, fans, and dampers face similar problems.

If these manufacturers go out of business now, it will take years for the passive solar industry to recover, due to the lengthy lead times needed for product development, tooling, and marketing in the construction industry.

Manufacturers of conventional building materials such as brick, concrete block, windows and glazing materials, wood, ceramic tile, and awnings and screens also have begun to gear marketing strategies toward the passive solar market and would be encouraged by the stimulating effect of a tax credit program.

HOW DOES THE CREDIT WORK?

The credit is available only to builders who include all five elements of a passive solar building in their home design. These include:

- o Solar Collection Area: The solar collection area is a transparent or transulcent material on the south side of a building, designed to admit the direct rays of the sun so that they strike the absorber directly. Typically constructed of glass, plastic, or fiberglass in area amounts greater than conventional construction, the most common

"collector" is vertical double-pane glass, which must be within 30° of the south. This glazing may also be on a tilted surface such as skylights.

- Absorber: The absorber is a surface that the sun's rays strike and heat. The thermal energy then moves to a storage mass. Typically, the absorber surface is a material which is dark in color and hard with good solar radiation absorption and thermal conduction properties. This surface must be exposed directly to the winter sun. Common surfaces are dark ceramic tile, slate, brick, and concrete. The absorber surface is intimately connected to the storage mass (see below) and usually is the same material.

- Storage Mass: The storage mass holds the heat absorbed and later releases it to where it is needed in the building by means of the distribution system. Frequently the absorber and the storage mass are one and the same. The storage mass is a dense material of sufficient thickness and surface area to store the absorbed solar energy. Typically, Trombe walls are 12" thick with a surface area equal to the collector glass area. Concrete floor slabs of 4" to 6" thick usually have a surface area of three times the collector area. Other materials and configurations are also possible.

- Heat Distribution Method: A clear means or path connecting the storage mass to the habitable areas constitutes a heat distribution method. Sometimes the heat movement is by totally

natural means (such as radiation or convection) and sometimes with the assistance of a very small fan or pump. The most common method of distributing heat from the storage mass to the habitable areas is by radiation from the mass to the space. This typically means that the storage mass is within the habitable space. Massive floors and walls, as well as free-standing walls or water containers meet this requirement. The other method is by forced convection from a remotely located storage mass (rockbed) to the habitable space with the aid of a fractional horsepower fan.

- o Heat Regulation Device: Heat regulation devices control solar heat gain in the building in summer and unnecessary heat loss from the building in the winter. Two requirements are met with these devices. Excessive heat loss in the winter is typically achieved with the use of insulated shutters, drapes, panels or blankets over the collector area at night. Another method is to provide triple glazing for the collector. The second requirement is to prevent excessive heat gain in the summer through the collector. This is accomplished with overhangs, awnings or exterior blinds of shades.

The credit itself is calculated on the basis of three variables: climate (building location); building load (size, insulation level), and passive performance (system size in relation to building load and climate).

Therefore, the builder will be required to make one simple determination and supply three items of information:

First - Does the building incorporate a passive system (See Table 1). If yes,

Two - Specify the building location (potentially by zip code).

- Specify the building heated area and insulation level.

- Specify the gross passive system size (only new piece of information required, taking a couple minutes to measure from plans).

To complete a tax credit form, the builder would perform the following arithmetic:

gross passive system area	÷	heated floor area	x	insulation factor from Table 2	=	passive factor

Knowing the passive factor and location of the building, the builder can determine his credit from the tax credit table.

An additional benefit of the tax table is to allow the builder to estimate the best system size for his region.

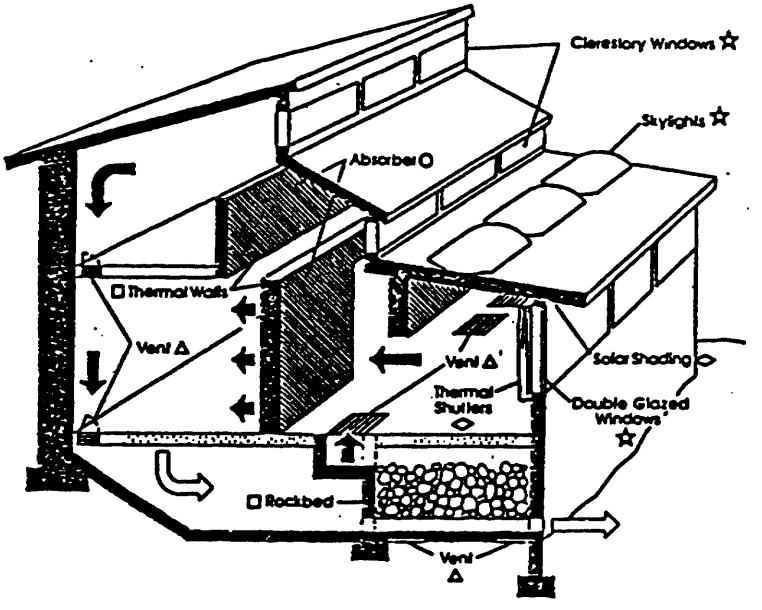
Graphic material explaining the credit is appended to my testimony. Thank you for giving the Passive Solar Industries Council an opportunity to be heard today.

How Does the Credit Work?

Simple, Two Step Process:

Step 1 Recognition Factor Form

The Builder Will Complete a Simple Form Which Identifies the Requisite Passive Solar Components*



* RECOGNITION FACTORS
- □ Storage Mass
- ☆ Solar Collection Areas
- O Absorber
- △ Heat Distribution
- ◇ Heat Regulation Method

The five elements at the left must be integrated into any building qualifying for the credit. This is an illustrative diagram; refer to the legislation for specific definitions.

Step 2 Determination of Amount of Tax Credit

To Determine His Tax Credit, the Builder Must Know

1. **Closest City to Building (From List of 219 Cities)**
2. **Solar Collection Area (Total Area of South Facing Windows)**
3. **House Heating Load (Amount of Heating Energy Required by the House)**

Factors 2, 3 Will Be Used To Determine the Passive Rating of the House

To Determine the House Heating Load:

The Builder Multiplies the Total Floor Area of the House by One of 8 Selected Insulation Factors Derived From the Insulation Factor Table

The Builder Then

Determines the Passive Solar Rating by Dividing the Area of South Glass by the House Heating Load

$$\text{Passive Solar Rating} = \frac{\text{Area of South Glass}}{\text{Heating Load}}$$

The Builder Enters the Passive Rating at the Closest Number on the Solar Construction Credit Table and Finds the Nearest City

Example

- House Location — Roseville, California
- Nearest Location — Sacramento
- Passive Collection Area — 279 Ft^2
- House Heating Load* — 465 Btu/Hr °F
- Passive Rating — $\frac{279}{465} = .6$
- Tax Credit — $708

*House Heating Load = (1500 Ft^2)(.31 — From Insulation Factor Table)
= 465 Btu/Hr °F

Solar Construction Credit

Example Table *

(Amounts in Dollars)

Location \ Passive Rating	.2	.3	.4	.5	.6	.7	.8
Albuquerque	420	800	1100	1340	1480	1620	1700
Atlanta	250	475	620	820	972	1080	1144
Boston	374	636	898	1122	1309	1496	1683
Burlington	366	641	916	1053	1237	1328	1420
Columbus	310	557	756	876	955	1144	1194
Madison	432	778	1080	1296	1512	1685	1858
Sacramento	231	400	524	616	708	755	801

Passive Rating = $\frac{\text{Passive Solar Collection Area (Sq. Ft.)}}{\text{House Heating Load (Btu's/°F-Hr)}}$

*illustrative purposes only—actual figures will vary

note: Insulation Factor Table unavailable at this time

National Association of Home Builders
15th and M Streets, N.W., Washington, D.C. 20005
Telex 89-2600 (202) 822-0200

STATEMENT OF

THE NATIONAL ASSOCIATION OF HOME BUILDERS

before the

SUBCOMMITTEE ON ENERGY AND AGRICULTURAL TAXATION

of the

SENATE FINANCE COMMITTEE

on

PASSIVE SOLAR TAX CREDIT FOR BUILDERS

June 8, 1981

SUMMARY OF PRINCIPAL POINTS

1. The energy efficiency of homes built by NAHB members increased by over 34% in the period of 1974-1978. Since that time, builders have continued to increase the level of thermal protection in new homes.

2. One of the most promising opportunities for the construction of energy efficient homes is passive solar design.

3. However, the present state of the economy and the housing industry is such that few homes, let alone passive solar homes, are being built today.

4. The short-term outlook for the housing industry is, in a word, dismal.

5. The added financial risk involved is the main reason few builders are building passive solar homes.

6. The majority of homebuilders are small businessmen who cannot afford building a home that can cost more than $5,000 than its conventional counterpart and may not sell.

7. These extra costs include different building materials, designs, and changes in lot size or tract layout.

8. Over 80% of respondents to an NAHB Research Foundation survey indicated a tax credit would encourage them to use more passive solar techniques in the homes they build.

9. The passive solar tax credit provides an up front incentive to the builder to allow him to price the passive solar home in a more competitive range with a conventionally heated home.

10. The tax credit provides a simple and workable performance based definition of a passive solar home.

11. The tax credit will help spur demand for passive solar homes and in turn, lead to more information and better passive solar products.

12. The credit will also encourage the construction of extremely well insulated homes.

13. The projected revenue loss to the Treasury due to the tax credit will be minimal and out weighed by far in energy savings.

Mr. Chairman and Members of the Commitee:

My name is Harry Pryde and I am a homebuilder from Bellevue, Washington. I am testifying today on behalf of the more than 123,000 members of the National Association of Home Builders (NAHB) of which I am Vice President and Treasurer. NAHB is the trade association of our nation's homebuilding industry. Accompanying me today are Robert D Bannister, Senior Staff Vice President for Governmental Affairs and Joseph M. McGuire, Energy Legislative Representative. We appreciate the opportunity to present our views on S.498, a bill to provide a tax credit to homebuilders for the construction of residences incorporating passive solar design.

NAHB strongly supports legislation to provide incentives for the construction of passive solar residences. Our support of S. 498 is based upon careful consideration of many alternative energy techniques and how they may be applied to residential construction.

Mr. Chairman, more than ever before the issue of energy is linked to decisions made every day by all of us. America's past dependence on inexpensive energy is providing new challenges to American consumers and industry. Decisions such as where to live, how to get to work or whether a trip to the store is necessary, are being made today only after energy or fuel costs are considered. In a recent consumer survey conducted by the NAHB Economics Department, nearly 80% of the respondents indicated energy efficiency as an important factor when considering the purchase of a new home. We believe that our members have responded to our present energy dilemma well in the products they provide. The energy efficiency of the homes built by NAHB members increased by <u>over 34%</u> in the period of 1974-1978. Since that time, builders have continued

to increse the level of thermal protection in new homes. The NAHB Research Foundation market survey data for 1979 shows that the average R-value for ceiling insulation increased 12% to an average value of R-25 compared to 1978. The number of homes with R-30 or more ceiling insulation increased 33% compared to 1978. Likewise, the average R-value of wall insulation increased as did the percentage of homes using foam insulating sheathing.

Window thermal protection also improved from 1978 to 1979. Homes with single glazing dropped from 42% to 37%. Homes with double glazing increased from 56% to 60% and triple glazed windows increased from 2% to 3%. While these national averages show significant improvement, the increased level of thermal protection in the colder states is dramatic. The percentage of new homes with heat pumps, a higher initial cost but more efficient system than resistance heating, continued to increase from 1978 to 1979.

Mr. Chairman, the decontrol of energy prices greatly increases the economic feasibility of solar assisted homes. In addition, recent trends by our builders to increase thermal protection add to solar's economic justification, since the first step in the application of solar energy is to increase the level of thermal protection. One of the most promising opportunities for the construction of energy efficient residences is passive solar design. A passive home, through its design, takes best advantage of the sun's rays for heating and lighting. In a passive system, the various building elements themselves are used to collect, store and distribute solar heat, coolness and natural light - minimizing dependence on either fossil fuels or mechanized equipment. Homes heated by passive solar systems can in some instances consume as

little as 30% of the energy used by conventionally heated homes. However, passive solar designs are being employed by only a fraction of home builders today.

The present state of the economy and the housing industry is such that few homes, let alone passive solar homes, are being built today. Today's record high interest rates make the building and purchasing of new homes a near economic impossibility. I would like to bring the Committee up to date on the dismal short-term outlook for the housing industry.

Outlook For Housing

The facts are:

- In 1980 we experienced the second most serious housing slump since World War II, with production dropping by 55 percent from the peak of the housing cycle in November, 1978 to May, 1980.
- Total housing production for 1980 was down 26 percent from 1979 - with 1,292,000 units actually started or over 450,000 units less than the 1,745,100 started in 1979.
- Total negative impact to the economy of the housing downturn from 1978 to 1980 was $88 billion.
- Housing production is running currently at under a 1.4 million annual rate.
- Housing production under government programs are comprising a larger segment of total starts. In 1980, the number of units insured or subsidized under government programs totalled 43.4 percent of total starts, compared to 34.5% in 1979, and 22.8% in 1976.
- Our Builders Economic Council survey shows a substantial decline in sales and "traffic". For the last three months less than 5 percent of the single-family builders surveyed reported sales to be "good to excellent" -- one of the lowest rates ever recorded in this category.
- Home sales have been declining, with the April rate plunging 14 percent below the sales pace of March.
- The inventory of unsold homes stands at 325,000 units.

- The failure rate in construction is up sharply. In 1980, there was a 127 percent increase in business failure dollar volume for building contractors and a 225 percent increase for subcontractors.

- Net inflow of loanable funds into thrift institutions continues to be low. For 1980, the thrifts only received $5.7 billion in net new money, down 29 percent from 1979 and down 75 percent from 1978.

- The unemployment rate in the construction industry in April reached 14.6% -- close to twice the national unemployment rate for all workers. According to government statistics, there were 737,000 construction workers out of work in April.

The latest projections of the NAHB Econometric Model forecast shows an 8.4% decrease from the depressed starts rate of 1980 of 1.3 million units to 1.183 million in 1981 Even if there is a a gradual decline in interest rates, we still believe that mortgage rates will remain high - probably in the 14.0 to 14.5 percent range by the end of the year. Our industry faces at least another six months of dismal performance, with a slight improvement by the end of the year.

Mr. Chairman, the major reason why only a fraction of NAHB member builders are using passive solar is the added financial risk involved. Builders cannot afford to take additional risks in light of present interest rates. Forty percent of our builders construct fewer than 10 houses a year; only nine-tenths of one percent build over 500 houses a year. Over 75% of our members build fewer than 25 units a year, and over one-half of our builders employ fewer than 5 persons.

Passive solar homes at present require additional front end costs. A passive solar home does not simply contain extra glass on its south side. The key element to a passive solar home is thermal mass. The term "mass" refers to a material that can receive and store heat generated from the sun's rays and give off this heat in such a way

as to add to the comfort level in a home. This very important function can take place without mechanical parts, but nonetheless the needed material adds to the home's cost. The mass should have an area of direct irradiated material equal to or greater than the solar collection area. The most common examples of mass are masonry walls and floors, or trombe walls. Inclusion of extra amounts of masonry material in new homes today goes against recent trends of making buildings less expensive to build. Masonry products, because they are very labor intensive, add to the cost of building a new home. Other examples of thermal mass are rock beds, water walls, or phase change materials. However, these are very new products that are very high in cost with little actual performance data available.

The extra costs of a passive solar home can run upwards of $5,000. Passive solar homes for the most part, are different in appearance than conventional homes. Builders cannot take the risks to build homes that will result in higher purchase prices with unproven market acceptance. Because of high interest rates, home builders are doing everything possible to keep down the costs of new homes. An increase in the front end cost of a new home of $1,000/$3,000 or $5,000 substantially reduces the number of families able to qualify for purchase. At current interest rates fewer than 6% of the working families could qualify for the median priced single family home. (See Attachment A).

Mr. Chairman, we believe that S.498 provides the necessary incentive to the home builder to build passive solar homes and begin the transition to the construction of the most energy efficient home possible. This legislation provides an up front credit to the builder which will lessen the risk of building a passive solar home. The amount of the tax credit

available to the home builder will enable him to price the more energy-efficient passive solar home in a more competitive range with conventional homes. This pass-through feature has proven effective in California where a State passive solar tax credit is available to builders.

Mr. Chairman, in a nationwide survey of NAHB members conducted last year by the NAHB Research Foundation, over 80% of those responding indicated that a tax credit would encourage them to use more passive solar techniques in the homes they build.

The credit will provide the incentive necessary to get the builder and developer committed to passive solar early in the development process. Passive solar homes obviously require proper orientation to take best advantage of the sun's rays. This in many instances will require changes in lot size or tract layout. For passive features to be most efficiently incorporated, it is advantageous for the ridge of the roof to have an east/west orientation, so that the front or back of the house can face south. However, reorientation of the house on the lot to improve solar access increases the required width and, therefore, the cost of the lot. The builder, in order to make these types of adjustments in the development process, needs to know the incentive is there during the initial development stages.

Today, passive solar homes are being introduced primarily in custom built, high priced homes on larger lots where added cost is not prohibitive and where more advantageous orientation on lots can be achieved. The passive tax credit will help reduce the risk of the small builder inorder to allow him to enter the passive solar homes market.

Another factor which inhibits passive solar construction is the lack of proven information available to designers, builders and consumers

regarding the advantages of passive solar construction. Questions such as: "How much does it cost?" "How well does it perform?" "Can it sell?" must be answered before a small volume builder can afford to build passive solar homes.

When looking at the total life of a new home, home buyers today cannot afford to purchase anything but the most energy efficient home. But they need to see passive solar homes occupied and saving energy before they demand such products. Although nearly 80% of the respondents to NAHB's recent consumer survey indicated energy efficiency as one important factor in purchasing a new home, only 12% indicated a willingness to buy a smaller home. This indicates that although consumers recongize the importance of energy, their traditional demand patterns for new homes are slower to change.

The passive solar tax credit legislation before the Committee provides a simple and workable definition of a passive solar system. Hesitancy in the past by homebuilders to support previous passive solar tax credits hinged upon the vague definition of "passive system". A definition based on the cost of components gets bogged down in separating the costs of the components' structural versus energy purposes. The performance-based definition for this credit is endorsed by NAHB because it is simple and it can work.

The performance-based credit also encourages the construction of a well-insulated house. Since the amount of the credit increases in relation to the entire home's ability to save energy, builders are encouraged to build tighter, more energy efficient homes. The credit would not reward the construction of a new home that simply absorbs more heat from the sun than a conventional home, and then loses this heat at

night. The difference between a truly effective passive solar home and a sun-tempered home is that the passive homes gains free energy and retains it longer. At the same time, the credit would not reward a passive design that would overheat a home and increase its cooling load.

The demand for passive solar homes spurred by this tax credit will in turn lead to the research and development of additional passive solar products. There are presently very few passive solar products that will pass the acid test of the real estate appraiser and lender to get credit for full value. According to our Research Foundation, there actually are a number of needed passive products that have yet to be produced. For example, moveable night insulation for glass and phase change material/heat storage products are needed but are not now on the market. Most of the basic technologies are known but without an incentive for production, and without a needed market, manufacturers will not invest in passive solar products.

Passive solar design as a concept is not new. The early Indian inhabitants of the Western United States used passive solar concepts in their adobe dwellings. Although we can say today that passive designs can in some instances reduce covnentional heating loads by as much as 70%, our practical experience is limited. Much of the data comes from laboratory research. These facts point to the need for a passive solar market. The best selling tool for a passive solar home is the utility bill of its previous occupant or of a comparable home. But as the saying goes, the horse has to go before the cart. To buyers as well as builders, <u>seeing is believing</u>. The passive solar tax credit will provide the necessary incentive to begin a supply and demand for passive solar

homes.

Mr. Chairman, there is another feature of S.498 which NAHB considers very important. The restoration of health to the housing market is contingent on a stable economy and a reduction in federal spending. The revenue impact of the passive solar tax credit as projected by the Joint Taxation Committee is only $7 million for FY'82 and $369 million through fiscal 1987. According to DOE figures, the savings in energy costs for that period and for the life of the homes built in that period would be more than justified.

We believe that the limited duration of the tax credit will provide enough time for a transition to the construction of more passive solar homes. We would however recommend a study of its effectiveness after its duration to determine if its extension would continue to be useful.

Mr. Chairman, thank you for this opportunity to present our views. If you have any questions, we would be happy to respond to them.

Attachement "A"

HOUSEHOLDS PRICED OUT OF MARKET BY RAISING HOUSE PRICE

Price of House	Principal & Interest	Taxes & Insurance	Total Annual Payment	Income Needed 3 X Amt.	Households Priced Out
$70,000	$10,166	$1400	$11,566	34,698	- - -
$71,000	$10,312	$1420	$11,732	35,196	373,000
$73,000	$10,602	$1460	$12,062	36,186	1,073,000
$75,000	$10,893	$1500	$12,393	37,179	1,776,000

Assumes: 16% interest rate, 10% down, 2% of sale price for taxes and insurance.

Solar Lobby
1001 Connecticut Avenue, NW, suite 510
Washington, D.C. 20036
202-466-6350

TESTIMONY OF DR. JUDITH JOHNSRUD

CHAIR, BOARD OF DIRECTORS OF THE

SOLAR LOBBY

BEFORE THE

SUBCOMMITTEE ON ENERGY AND AGRICULTURAL TAXATION

OF THE COMMITTEE ON FINANCE

OF THE U.S. SENATE

June 8, 1981

on S. 498

Tax Credit to Homebuilders
for the Construction of Passive Solar Residences

Chairman Wallop, members of the Committee, ladies and gentelmen: I am Judy Johnsrud, Chair of the Board of the Solar Lobby. I am pleased to have the opportunity to appear before this Committee in support of a tax credit to Homebuilders for the construction of residences incorporating passive solar design and building techniques.

The Solar Lobby is a research and advocacy group based in Washington, D. C., supported by contributions from over 35,000 members who believe that an expeditious transition to the use of renewable energy resources, combined with agressive programs of energy effeciency, are the only basis for sound energy policy.

It would seem obvious that one of the first steps in the transition should be to build the most energy efficient buildings we know how. Yet, today, there are workmen out building houses which will require as much as 10 times more energy than would have been necessary had they employed passive solar building techniques.

Our housing stock turns over every 50 years. That is, 2% of our homes are built each year. This means that even if we started today to build all new housing in the most energy efficient manner, it would take 50 years to have the entire housing stock using the least possible energy. The correlate is that every new house built in less than the optimum manner will be using an unnecessary amount of energy for the next fifty years. Because the nation's security is going to be hostage to the energy needs of these houses for so long, we should start building homes differently sooner rather than later. Presumably energy prices will indeed get high enough that buyers will demand these houses. Only then with a buyer assured will the ultra-conservative builder build them. Must we really build needlessly wasteful houses until that time comes? Solar Lobby beleives we should change now.

Passive solar construction is a basic technology, at least as important - in both the near and long term - as active solar technology. Yet through a series of interpretations, the

residential energy tax credit covers active installations and excludes almost all portions of a passive system. (One even wonders if the administration is aware of this discrimination, as they write confidently of an energy policy which stimulates solar use through the price of fuel and existence of tax credits.) To balance incentives, the Solar Bank was being planned to emphasize passive. It now appears unlikely that that Bank will be functioning in the immediate future, and we must turn to other means.

We need a comprehensive national strategy for encouraging passive solar construction, and the tax credit to homebuilders is the centerpiece of that strategy.

There has been a great deal of discussion, some of it heated, about the most effective way to get more passive solar homes built - a stimulus to the buyer or to the builder. The tax credit we are discussing today is an incentive to the builder. Sixty percent of the new homes build in this country each year are "spec built" - that is, built by builders on speculation. If we can influence them to use passive solar techniques, we will have made a giant stride.

In summary, we believe that the very important job of changing the way we build our homes must be speeded and will be by the addition of a tax credit to builders for the construction of passive solar residences.

Senator WALLOP. The last bill before the committee is S. 725. And the two witnesses are Mr. John Hopkins, president of the Energy Mining Division, Union Oil Co., and Mr. Pete Korth, regional tax manager of the Gulf Oil Corp.

I have a statement from Senator Armstrong in support of S. 725, who has joined as a cosponsor on that legislation which will be placed in the record, in the appropriate spot.

STATEMENT OF SENATOR WILLIAM L. ARMSTRONG ON S. 725, THE OIL SHALE TAX CREDIT ACT AMENDMENTS

I am pleased to co-sponsor Senator Wallop's legislation to broaden the definition of oil shale property eligible for the 10 percent energy investment tax credit.

Oil shale, as my colleagues well know, is one of the few alternative fuels that can play a significant role in increasing domestic energy supplies over the decade. While technologies for other synthetic fuels are still on the drawing board, oil shale technologies are on the verge of going to commercial production in the next few years.

If all known shale properties are developed, production from shale oil could exceed 850,000 barrels per day by 1990. With some 600 billion barrels of recoverable oil from shale deposits in the United States, oil shale promises a long future of secure domestic energy supplies. The oil shale industry is of critical importance to Colorado. My state has some 80 percent of all known oil shale reserves.

The bill we are considering today will enhance oil shale development by providing the full tax incentives that were originally intended under the 1978 Energy Tax Act.

The Energy Tax Act was enacted at the end of the 95th Congress to encourage new technologies and provide domestic energy alternatives to oil and gas. But in drafting, a limitation was placed on certain categories of expenditures . . . and have prevented oil shale producers from claiming the full credit intended by the 1978 law.

Specifically, the definition of "oil shale equipment" under the 1978 Act excludes expenditures for equipment necessary to upgrade and treat shale oil before it can be refined. Upgrading and treating oil shale before refining—a process known as hydrogenation—is a capital intensive process. Hydrogenation represents about half the cost of shale production. Yet the costs involved in hydrogenation are not eligible for the 10 percent investment tax credit.

S. 725 corrects this oversight. It permits equipment used in upgrading and treating shale oil to be eligible for the 10 percent investment tax credit. The bill also removes the inequity of tax expenditures for energy production. For example, all equipment used in the production of other synthetic fuels—such as coal gasification and coal liquification—are eligible for the full 10 percent tax credit.

Finally, let me point out that S. 725 has no budget impact or revenue loss until the mid-1980's. This is because the expenditures for upgrading facilities will normally come toward the end of the building of a shale facility.

Mr. Chairman, I am grateful for today's hearing on this legislation. I welcome the comments of today's witnesses.

STATEMENT OF JOHN HOPKINS, PRESIDENT, ENERGY MINING DIVISION, UNION OIL CO., OF CALIFORNIA, LOS ANGELES, CALIF., AND PETE KORTH, REGIONAL TAX MANAGER, GULF OIL CORP., DENVER, COLO.

Mr. HOPKINS. Mr. Chairman, thank you for the opportunity of being here this morning.

I am president of the Energy Mining Division of the Union Oil Co. of California and also chairman of the Rocky Mountain Oil & Gas Association (RMOGA) Oil Shale Committee.

Mr. Korth is the tax manager for Gulf Mineral Resources Co. and also chairman of the RMOGA Oil Shale Tax Committee.

We are both here in our capacities as representatives of the Rocky Mountain Oil & Gas Association this morning.

We have prepared a joint statement which we filed for the record and in the interest of time I'll undertake to summarize that and

then Mr. Korth may have some comments to add to it and we will both be pleased to try and answer your questions.

The Rocky Mountain Oil & Gas Association is a trade association representing some 750 energy companies in the Rocky Mountain area.

The Oil Shale Committee of the RMOGA has as its members most of the companies seriously interested in developing oil shale.

We are here in support of S. 725 which would propose to amend the Internal Revenue Code to allow shale oil upgrading and hydrogenation facilities to be included in the energy tax credit.

We agree that this extension should not include conventional refining facilities. We believe that the amendment will carry out the original intent of the Congress.

Back in 1977 when the Energy Tax Act was passed, I think there was still some confusion even in the industry as to what the ultimate disposition of oil recovered from shale should be.

Some companies at that time thought about producing it and selling it as boiler fuel. Other companies talked about upgrading it to a quality usable in a refinery.

Developments since that time have caused the consensus to clearly shift toward the necessity of including the upgrading facilities in order that the oil clearly can displace imported foreign oil.

Its true that hydrotreating and other similar processes that would be required for upgrading shale oil are used in conventional refining but, they are different facilities.

I think its fair to say that none of the existing facilities in almost any refinery in the country could be used for upgrading shale oil. It requires a special application of these technologies, a special catalyst, larger inventories of catalysts, more severe conditions—conditions that are not presently available in conventional refineries.

It is these facilities that we propose should be included in the energy tax credit.

Another point that we would like to make is that most of the other alternate source technologies have given the benefit of full treatment of the energy tax credit while shale has not.

Coal processing, coal liquification, gasification, solar, wind, ocean currents all get full benefit while shale was excluded in this very important part of its technology.

Our statement summarizes the importance of shale, the magnitude of the resource, the fact that its, of the alternate energy sources, probably the most nearly economical of all.

I wont take your time this morning to repeat that but it is in the record.

I think it is fair to say, call your attention to the fact, that we have had in the past strong support from the Department of Defense because there is an important national security element to the development of oil shale which we think adds further justification for this amendment.

The budget impact will be small in terms of the Federal budget but significant to the oil shale developer.

The benefits in view of the current price deterioration are more important than they even would have been before because the current world surplus of crude oil and the deterioration of the

present pricing is obviously affecting adversely the developers of oil shale.

We are convinced that the passage of this amendment will enhance the probability of an oil shale industry developing, it will add to the national security and we urge your strong support.

Senator WALLOP. Thank you very much.

Mr. Korth.

Mr. KORTH. Thank you Mr. Chairman. I think its important to point out the historical prospective in the development of this approach.

In mid-1976, the approach of the tax credit for front end investments in oil shale was developed and was stated in the Joint, as stated in the Joint Committee report and was incorporated finally into House Resolution 6860.

As you all recall this provision did not pass at the time. However, this original provision would have allowed the credit for equipment used in purifying kerogen.

It was clear at that time this incentive was intended for all property used or necessary in the development of oil shale.

Now, since that time, we again went to work on it in 1977 and carried forward into 1978 and the ultimate credit as we know it today was enacted into law as a part of the Energy Tax Act of 1978.

However, one important change was made in the act somewhat in the early hours of the morning, 2 or 3 a.m. as it passed out of the Senate Finance Committee, which we think significantly altered the original intent of the incentive and that was a change in the language to specifically exclude processes subsequent to retorting.

Again in 1979 and 1980 an amendment to the Windfall Profits Tax Act would have extended this important incentive to property used in upgrading.

The amendment, however, was ruled nongermane.

We now again appear supporting this bill, not as a new incentive but as a continuing effort to incorporate into law what we feel was the original intent of Congress.

Thank you Mr. Chairman.

Mr. WALLOP. Mr. Korth, I might say that I've been trying to get this done for a while myself and I feel as you do that the country has a resource there that really behooves us to have on line as soon as we can at least as a technical capability if for no other reason.

You probably know more what happens at 2 o'clock in the morning in the Finance Committee than members of the Finance Committee having been there since about 7 o'clock the day before but there are always times when Congress establishes definitions that reflect the state of current technology and its one of the big errors we involve ourselves in as near as I can tell.

My question to you would be, as there are other anticipated processes in addition to hydrogenation which might be excluded by the definitions proposed in this bill and if there are some things that we might do that would anticipate potential processes that would be beneficial, keeping in mind that we don't I don't think want to as you said Mr. Hopkins go into the refining process?

Mr. KORTH. Mr. Chairman, the bill as you well know, on page 2 what I am looking at states that the term shale oil property means property used in the production or extraction of oil from oil bearing shale rock including property used for hydrogenation parens or for a similar process subsequent to retorting end parens but not including property used for refining.

At this point we feel that the parenthetical provision provides——

Senator WALLOP. I think that's broad enough for the effort but you never know until you're in the business and won't be able to anticipate many of the things that wouldn't be made available to us in a matter of time.

Mr. KORTH. To some extent we found that in the past to enumerate processes in a bill always tend to leave a few out and I feel better to be parenthetical here and to kind of take the broad approach to it and then we feel that this would cover us.

We, of course, never had any intent to cover any refining process and I think the cutoff is at the refining, the front end of the refinery here.

Mr. WALLOP. What percentage of the total cost of producing a barrel of oil shale is contributable to upgrading kerogen?

Mr. HOPKINS. It is about one-third.

Mr. WALLOP. It has to be upgraded, as I understand it before entering a refinery is that correct?

Mr. HOPKINS. That is true.

Mr. WALLOP. Isn't it also true that kerogen cannot even be transported in a pipeline without some form of upgrading?

Mr. HOPKINS. Yes; included in the upgrading process there are two things that must be accomplished.

One is the viscosity must be reduced and the other is that the pour point must be reduced in order that the oil can be transported in a conventional buried cold pipeline.

Mr. WALLOP. So, in essence you still don't have a product without upgrading kerogen?

Mr. HOPKINS. That's right. Unless you wanted to transport it by rail or some other means such as that.

Mr. WALLOP. Bordering on a major problem?

Mr. HOPKINS. Right.

Mr. WALLOP. From the standpoint of those of us who have coal trains running through our communities add to them wall-to-wall kerogen trains.

Mr. HOPKINS. It is obviously right to transport a liquid by pipeline.

Mr. WALLOP. Clearly we have tremendous oil shale reserves. Do you have any projections on your company's ideas, either of you, of what the oil shale contributions could be say by 1990 and 2000?

Mr. HOPKINS. There have been a number of forecasts made by the Department of Energy and others which would suggest that we might conceivably achieve a 400,000 or 500,000 barrel per day level of production by 1990 that can go on beyond that as circumstances and economics will prove out.

I think its entirely within reason and within the normal estimates made that the industry might well achieve a million and a half barrels a day at least in the early part of the next century.

But, there have been forecasts that would suggest that it can go much beyond that.

And again I think a function of the national urgency will determine——

Senator WALLOP. Does the upgrading of oil shale require significant amounts of water?

Mr. HOPKINS. Not large in terms of other uses of water.

Senator WALLOP. As a comparison lets say coal gasification might——

Mr. HOPKINS. Smaller than that. Actually the numbers that I think are commonly recognized are that it will require somewhere between 2 and 3 barrels of water per barrel of oil produced.

That is not a large amount. A conventional refinery would use about 7 barrels of water per barrel of oil processed.

A oil fired or coal-fired steam electric generating plant would use about 10 barrels. So I think that the consumption of water in shale oil processing is not great.

Senator WALLOP. In your opinion there's enough to establish an industry of that magnitude?

Mr. HOPKINS. The State of Colorado Department of Natural Resources have made a study that indicates that without cutting into the allocated waters for agriculture and other purposes there is enough water on the western slope of Colorado and in Utah.

Senator WALLOP. It can be done then without going into existing agricultural and community water supplies?

Mr. HOPKINS. Yes. At a level of about 1½ million barrels a day. Beyond that there may have to be some reallocation of water.

Senator WALLOP. Well, I thank you both very much.

Mr. HOPKINS. We appreciate the opportunity.

Senator WALLOP. Maybe we can do it before 2 o'clock in the morning.

Mr. HOPKINS. Thank you, Mr. Chairman

[The prepared statement of John M. Hopkins and Peter Korth follows:]

SUMMARY OF STATEMENT OF JOHN M. HOPKINS

AND PETER J. KORTH

Representing Rocky Mountain Oil and Gas Association before the Senate Finance Subcommittee on Energy and Agricultural Taxation

on

S. 725

June 8, 1981

This legislation would amend the Internal Revenue Code to allow shale oil equipment used in hydrogenation or similar upgrading processes of shale oil, or kerogen, prior to refining to be eligible for the 10% energy tax credit. A positive effect on the development and use of oil shale would result.

Presently under Section 48 (l) (7) of the Internal Revenue Code, the definition of "oil shale equipment" which qualifies for the 10% energy credit excludes hydrogenation equipment necessary to upgrade and treat shale oil before it can be refined. S. 75 would broaden the definition of shale oil property to include such upgrading equipment but does not expand the definition to cover equipment used in the refining of shale oil.

Kerogen, or crude shale oil recovered from oil shale, is not useable as a feedstock for conventional refineries. It contains contaminants such as arsenic, nitrogen, or oxygen and unstable di-olefin compounds that must be removed or treated to make shale oil acceptable feedstock for conventional refineries. Hydrogenation processes are a major part of shale oil upgrading operations. Hydrogenation processes are also employed in conventional refineries for other purposes, but hydrogenation as applied to shale oil upgrading is different, employing special catalysts and more severe operating

conditions.

This upgrading process requires large equipment and property investments, which makes the cost of producing a barrel of shale oil useable as a feedstock to a conventional refinery almost double the cost of recovering the kerogen in the mining and retorting operations.

The ineligibility of upgrading equipment expenditures under present law denies to shale oil the full benefits of the energy credit and results in a substantial inequity among alternative fuels. By comparison, a much larger percentage of expenditures for products in coal gasification, liquefaction, solar, ocean thermal, wind, gasohol, geothermal, and biomass will qualify for the extra energy credit. This is not true in the case of shale oil.

S. 725 will have little impact on the budget during the next few years. The broadening of the credit will give certainty, stability, and equity in developing long-lead time shale projects that must compete economically with conventional petroleum.

RMOGA believes S. 725 would carry out the original intent of existing law and remove the inequity for expenditures for oil shale projects. We support enactment.

STATEMENT OF
JOHN M. HOPKINS
AND
PETER J. KORTH
REPRESENTING ROCKY MOUNTAIN OIL AND GAS ASSOCIATION
BEFORE THE SENATE FINANCE SUBCOMMITTEE ON ENERGY AND AGRICULTURAL TAXATION
ON
S. 725
JUNE 8, 1981

MR. CHAIRMAN, MY NAME IS JOHN M. HOPKINS. I AM PRESIDENT OF THE ENERGY MINING DIVISION OF THE UNION OIL COMPANY OF CALIFORNIA. I APPEAR TODAY IN MY CAPACITY AS CHAIRMAN OF THE ROCKY MOUNTAIN OIL AND GAS ASSOCIATION (RMOGA) COMMITTEE ON OIL SHALE. I AM ACCOMPANIED BY PETER J. KORTH, TAX MANAGER FOR GULF MINERAL RESOURCES COMPANY AND CHAIRMAN OF THE RMOGA OIL SHALE TAX COMMITTEE.

MR. CHAIRMAN, RMOGA CONSISTS OF SOME 750 MEMBER COMPANIES INVOLVED IN ENERGY PRODUCTION. THE COMMITTEE ON OIL SHALE REPRESENTS THE FULL SPECTRUM OF THOSE COMPANIES INTERESTED IN OIL SHALE DEVELOPMENT. WE APPRECIATE THE OPPORTUNITY TO APPEAR TODAY IN SUPPORT OF S. 725. THIS LEGISLATION WOULD AMEND THE INTERNAL REVENUE CODE TO ALLOW SHALE OIL EQUIPMENT USED IN HYDROGENATION OR SIMILAR UPGRADING PROCESSES OF SHALE OIL, OR KEROGEN, PRIOR TO REFINING TO BE ELIGIBLE FOR THE 10% ENERGY TAX CREDIT. WE BELIEVE THAT IT WOULD HAVE A CONSIDERABLE POSITIVE EFFECT ON THE DEVELOPMENT AND USE OF OIL SHALE, AND ON OUR NATION'S ENERGY FUTURE.

WHILE THE LEGISLATION WOULD BROADEN THE DEFINITION OF "OIL SHALE EQUIPMENT," WE CONSIDER THE BILL AS ONE WHICH WOULD CARRY-OUT THE ORIGINAL INTENT OF CONGRESS IN PASSING THE ENERGY TAX ACT

OF 1978, REMOVE AN INEQUITY IN THE CURRENT CODE, AND GIVE OIL SHALE EQUIPMENT THE SAME TREATMENT AS OTHER ALTERNATIVE FUELS.

PRESENTLY UNDER SECTION 48(1)(7) OF THE INTERNAL REVENUE CODE, THE DEFINITION OF "OIL SHALE EQUIPMENT" WHICH QUALIFIES FOR THE 10% ENERGY CREDIT EXCLUDES HYDROGENATION EQUIPMENT NECESSARY TO UPGRADE AND TREAT SHALE OIL BEFORE IT CAN BE REFINED. THE BILL, S. 725, PRESENTLY BEFORE THIS SUBCOMMITTEE, WOULD BROADEN THE DEFINITION OF SHALE OIL PROPERTY TO INCLUDE SUCH UPGRADING EQUIPMENT BUT DOES NOT EXPAND THE DEFINITION TO COVER EQUIPMENT USED IN THE REFINING OF SHALE OIL.

MR. CHAIRMAN, WE BELIEVE THAT WHEN THE ENERGY TAX ACT WAS PASSED THERE WAS NO CLEAR UNDERSTANDING OF THE TYPE OF PRODUCT THAT WOULD BE RECOVERED FROM SHALE ROCK. FRANKLY, THIS WAS BACK IN 1977 AND WE IN THE INDUSTRY HAD NOT REACHED A CONCLUSION AS TO HOW OR WHERE THE IMPURITIES PRESENT IN SHALE OIL WOULD BE REMOVED. IN FACT, THE SENATE FINANCE COMMITTEE REPORT (S. REPT. NO. 95-529 AT PAGE 100) STATES THAT "OIL WHICH CAN BE EXTRACTED FROM THIS SHALE REQUIRES ONLY MINIMAL ADDITIONAL REFINING IN ORDER TO MAKE IT EQUIVALENT TO CONVENTIONAL CRUDE PETROLEUM." IN REALITY, QUITE THE OPPOSITE IS TRUE.

OIL SHALE IS A SEDIMENTARY ROCK CONTAINING A SOLID ORGANIC MATERIAL CALLED KEROGEN. KEROGEN IS A COMPLEX HYDROCARBON WHICH IS REMOVED FROM THE ROCK PRIMARILY THROUGH HEAT TREATMENT AT ABOUT 900 DEGREES FAHRENHEIT. AT THAT STAGE THE KEROGEN IS UNSUITABLE FOR DIRECT USE OR IMMEDIATE OR DIRECT PROCESSING IN A REFINERY. IN FACT, AT THIS POINT OF THE PROCESS, THE KEROGEN IS A THICK, TAR-LIKE SUBSTANCE THAT WILL NOT FLOW IN NORMAL UNHEATED PIPELINES. IT CONTAINS CHEMICALS AND ELEMENTS THAT MUST BE REMOVED BEFORE REFINING SO THAT THEY DO NOT POISON THE REFINERY CATALYSTS.

THE NECESSARY PROCESS BY WHICH THE KEROGEN IS UPGRADED IS COMMONLY CALLED HYDROGENATION. IT REMOVES THE IMPURITIES FROM THE SHALE OIL AND MAKES IT FLOW MORE EASILY. CRUDE SHALE OIL CONTAINS MUCH GREATER CONCENTRATIONS OF NITROGEN, OXYGEN, PARTICULATE SOLIDS AND ARSENIC THAN CONVENTIONAL PETROLEUM. SHALE OIL ALSO CONTAINS REACTIVE DI-OLEFINS. ARSENIC IS A SEVERE CATALYST POISON WHICH WOULD RAPIDLY DEACTIVATE THE CATALYST IN A CONVENTIONAL REFINERY. DI-OLEFINS AND PARTICULATES CAUSE FOULING OF HEAT EXCHANGE SURFACES AND PLUGGING OF THE CATALYST BED. A SHALE OIL UPGRADING PLANT HAS PROVISIONS TO COPE WITH FOULING AND PLUGGING AND TO CAPTURE THE ARSENIC WITHOUT DEACTIVATING THE CATALYST. SHALE OIL UPGRADING EMPLOYS VARIATIONS OF HYDROTREATING THAT ARE DIFFERENT THAN HYDROTREATING USED IN CONVENTIONAL REFINERIES.

CONVENTIONAL REFINERY HYDROTREATING IS USUALLY AIMED PRIMARILY AT SULFUR REDUCTION AND IS PERFORMED SEPARATELY ON VARIOUS PRODUCT FRACTIONS I.E., GASOLINE, DIESELS, ETC. NITROGEN AND OXYGEN REMOVAL IS MUCH MORE DIFFICULT THAN SULFUR REMOVAL, PARTICULARLY WHEN PERFORMED ON FULL RANGE DISTILLATES AS WILL BE THE CASE IN SHALE OIL UPGRADING. CONSEQUENTLY MORE SEVERE CONDITIONS ARE REQUIRED. OPERATING PRESSURE IS HIGHER AND MORE CATALYST IS USED. THE SHALE OIL UPGRADING ALSO SERVES TO REDUCE THE POUR POINT OF THE RESULTING SYNCRUDE. HYDROGEN CONSUMPTION IS SIGNIFICANTLY GREATER THAN IN CONVENTIONAL REFINING.

ALTHOUGH THE CATALYSTS ARE SIMILAR TO THOSE USED FOR CONVENTIONAL PETROLEUM SERVICE, THEY WERE SPECIFICALLY DEVELOPED FOR UPGRADING OF SHALE OIL. THIS UPGRADING PROCESS REQUIRES LARGE EQUIPMENT AND PROPERTY INVESTMENTS, WHICH MAKE THE COST OF PRODUCING A BARREL OF SHALE OIL USEABLE AS A FEEDSTOCK TO A CONVENTIONAL REFINERY ALMOST DOUBLE THE COST OF RECOVERING THE KEROGEN IN THE MINING AND RETORTING OPERATION.

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THE INELIGIBILITY OF UPGRADING EQUIPMENT EXPENDITURES FOR THE ENERGY CREDIT UNDER PRESENT LAW DENIES TO SHALE OIL THE FULL BENEFITS OF THE ENERGY CREDIT AND RESULTS IN A SUBSTANTIAL INEQUITY AMONG ALTERNATIVE FUELS. BY COMPARISON, A MUCH LARGER PERCENTAGE OF EXPENDITURES FOR PROJECTS IN COAL GASIFICATION, LIQUEFACTION, SOLAR, OCEAN THERMAL, WIND, GASOHOL, GEOTHERMAL, AND BIOMASS WILL QUALIFY FOR THE EXTRA ENERGY CREDIT. WE STRONGLY SUPPORT THE DEVELOPMENT OF ALTERNATE ENERGY FORMS AND SEEK TO PUT OIL SHALE PROJECTS ON AN EQUAL BASIS WITH REGARD TO THE ENERGY CREDIT. THE PRODUCT OF AN OIL SHALE RETORT BY ITSELF IS NOT A MARKETABLE COMMODITY AND NEEDS TO BE UPGRADED. GENERALLY, THE OTHER ENERGY SOURCES LISTED ABOVE EACH QUALIFY FOR INCENTIVES UP TO THEIR MARKETABLE FORM. FOR EXAMPLE, A SIMILAR PROCESS OF HYDROTREATING COAL LIQUIDS QUALIFIES UNDER THE DEFINITION. THIS IS NOT TRUE IN THE CASE OF SHALE OIL.

THE MEMBERS OF THE SENATE FINANCE COMMITTEE HAVE HEARD CONSIDERABLE TESTIMONY IN THE PAST ON THE TREMENDOUS POTENTIAL, BOTH NEAR-TERM AND LONG-RANGE, OF SHALE OIL. WE DO NOT WANT TO COVER THAT GROUND AGAIN TODAY, UNLESS THERE ARE SPECIFIC QUESTIONS. WE DO WANT TO POINT OUT, HOWEVER, THAT THERE ARE AN ESTIMATED 1.8 TRILLION BARRELS OF SHALE OIL IN THE GROUND IN THIS COUNTRY, WITH ABOUT 600 BILLION BARRELS CONSIDERED RECOVERABLE WITH PRESENT TECHNOLOGY. THAT MEANS THAT THE UNITED STATES SHALE OIL RECOVERABLE RESERVE IS ABOUT TWICE THE KNOWN OIL RESERVES OF THE MIDDLE EAST. IN ADDITION, SHALE OIL IS ONE OF THE FEW ALTERNATIVE FUELS THAT HAS THE CHARACTERISTICS OF CONVENTIONAL PETROLEUM AND CAN BE USED IN ITS PLACE. ENERGY EXPERTS, BOTH INSIDE AND OUTSIDE OF THE GOVERNMENT, SUPPORT THE DEVELOPMENT OF THIS RESOURCE AND MANY BELIEVE IT MAY BE THE ONLY ALTERNATIVE FUEL THAT CAN MAKE A MAJOR CONTRIBUTION TO OUR DOMESTIC ENERGY SUPPLIES BY THE END OF THIS CENTURY.

WHILE THE RECORD IS WELL DOCUMENTED ON THE POTENTIAL OF SHALE OIL, WE WOULD LIKE TO POINT OUT THREE DEVELOPMENTS WHICH HAVE COME TO OUR ATTENTION.

FIRST, A STUDY FOR THE DEPARTMENT OF ENERGY ANNOUNCED THAT SYNTHETIC FUEL FROM SHALE IS THE MOST ATTRACTIVE OPTION TO REPLACE KEROSENE-BASED JET FUEL AS THE FUTURE AVIATION FUEL, BASED ON COST AND FUEL EFFICIENCY. SECOND, AN EXECUTIVE OF GENERAL MOTORS CORPORATION ANNOUNCED THAT GASOLINE FROM OIL SHALE APPEARS TO BE THE BEST ALTERNATIVE FUEL TO REPLACE GASOLINE FROM PETROLEUM AND URGED RAPID DEVELOPMENT OF SHALE OIL FACILITIES. THIRD, THE AIR FORCE ANNOUNCED THAT SHALE OIL CAN BE REFINED FOR JET FUEL WHICH MEETS OR EXCEEDS MILITARY SPECIFICATIONS.

I NEED NOT ELABORATE ON WHAT A STRONG DOMESTIC SUPPLY OF GASOLINE AND JET FUEL WOULD MEAN TO THE AUTOMOBILE AND AIRLINE INDUSTRIES, AND TO THE DEFENSE OF THIS NATION. MOREOVER, RECENT WORLD EVENTS OVER THE LAST FEW YEARS REMIND US THAT THE UNITED STATES CONTINUES TO BE VULNERABLE TO WORLD PETROLEUM DISRUPTIONS. WHILE PRESENTLY THERE APPEARS TO BE AN OVERSUPPLY OF WORLD CRUDE OIL, WE NEED TO USE THIS TIME TO MOVE AHEAD WITH THE DEVELOPMENT OF SHALE OIL.

WE BELIEVE S. 725 WILL HAVE LITTLE IMPACT ON THE BUDGET DURING THE NEXT FEW YEARS. IN THE MEANTIME, THE BROADENING OF THE CREDIT WILL GIVE CERTAINTY, STABILITY, AND EQUITY IN DEVELOPING LONG-LEAD TIME SHALE PROJECTS THAT MUST COMPETE ECONOMICALLY WITH CONVENTIONAL OIL AND GAS.

MR. CHAIRMAN, WE BELIEVE S. 725 WOULD CARRY OUT THE ORIGINAL INTENT OF EXISTING LAW AND REMOVE THE INEQUITY FOR EXPENDITURES FOR OIL SHALE PROJECTS. WE STRONGLY SUPPORT ITS ENACTMENT.

THANK YOU. WE WILL BE PLEASED TO ANSWER ANY QUESTIONS.

Mr. KORTH. Thank you.

Senator WALLOP. Being no further witnesses and no further bills to consider the hearing is adjourned.

[Whereupon, at 11:18 a.m., the hearing adjourned, subject to the call of the Chair.]

[By direction of the chairman the following communications were made a part of the hearing record:]

Testimony
by
Congressman Cec Heftel
on
S.498, Passive Solar Tax Incentive Legislation

Mr. Chairman:

It gives me a great deal of pleasure to present this statement in support of S. 498, legislation to provide tax credits to encourage builders to include passive solar energy systems in new homes. I am pleased to have been an original sponsor of the House version of this legislation with my distinguished colleague from Georgia, Mr. Fowler. I would also like to point out that this proposal is cosponsored by over 140 Members of the House including 14 Members of the Ways and Means Committee where the bill has been referred. I would also like to take this opportunity to congratulate Senator Hart of Colorado for his efforts as the prime sponsor of this legislation in the Senate. Finally, Mr. Chairman, let me commend you for your efforts on behalf of energy conservation. I look forward to working with you on these important matters as this Congress progresses. I am hopeful that we can act on an acceptable passive solar package this year.

Mr. Chairman, it is my feeling that the passive solar legislation which you are considering would accomplish two major goals. First, it would give a needed boost to the housing industry to include passive solar systems in new construction at a very modest cost to the federal government over the eight year duration of the program. The current recession has not only reduced new housing starts nationwide, but it has also seriously hampered the ability of builders to incorporate passive solar in the housing which is started. The second major benefit to be derived from this proposal is quite obviously in the energy savings which we will realize by including passive solar systems as part of the original design of homes. Since the nation's entire housing stock is expected to be replaced over the course of the next fifty years, it is vitally important that new housing incorporate passive solar systems (as well as other energy-efficiency features) if future generations are not to be "locked-in" to increasingly costly and uncertain supplies of energy for their residential needs.

The major obstacle facing passive solar is that builders and developers are increasingly constrained by today's inflationary economy, and therefore, inhibited from making any addition to a home which will increase its costs. The benefits of passive solar accrue to the homeowner rather

than the developer over the life of the home. Consequently, there is a need to provide an incentive to builders to proceed with passive solar construction in new housing. The benefit to the builder will be an improved climate for passive investment. The benefit to the homeowner will be reduced energy costs over the life of the residence. The benefit to the nation will be reduced consumption of fuel -- particularly, oil and natural gas.

Mr. Chairman, S.498 would provide a tax credit to builders and developers for residential passive solar systems based on their effectiveness in reducing the standard heating and cooling load on a home, rather than providing a credit for a percentage of the cost of all the components of the passive solar system (many of which might serve dual functions).

To qualify for the credit, a passive solar system will have to possess all of the following elements which are strictly defined in the legislation: a solar collection area, an absorber, a heat storage mass, a heat distribution mechanism, and heat regulation devices. The amount of the credit for a given passive solar system would be determined by analyzing through a series of simple calculations the energy efficiency of the given passive house in a particular location.

The maximum credit for a passive solar system under this proposal would be $2,000. It is expected that the credit for an average system would be about $1,000, constituting about a 20% subsidy for residential passive solar systems. The program would end in 1986.

Mr. Chairman, our nation must make every effort to encourage the use of currently available alternative energy systems. It is my feeling that passive solar can make a contribution to our nation's energy needs in the near term if we give the homebuilding industry the financial boost that it needs to get these systems off the drawing boards and into new housing construction.

Mr. Chairman, I would like to take this opportunity to congratulate you for your leadership in bringing this legislation to the Subcommitte's attention. I hope that we will be able to work together in the days ahead with our House and Senate colleagues in fashioning a passive solar program which will give a needed boost to our nation's housing industry and allow us to take one more step down the road to energy independence.

Thank you very much.

Air Products

C P Powell
Director of Taxes

Air Products and Chemicals, Inc.
Box 538, Allentown, PA 18105
(215) 481-7070

5 June 1981

Robert E. Lighthizer, Chief Counsel
Committee on Finance
Room 2227 Dirksen Senate Office Bldg.
Washington, DC 20510

Re: Hearing on Senate Bill 725 - June 8, 1981

Dear Mr. Lighthizer:

Air Products supports Senate Bill 725 which would amend the Internal Revenue Code with respect to the treatment of shale property as energy property for purposes of the energy investment credit.

As a means of encouraging the utilization of shale, it is suggested that subparagraph (B) of the bill be modified to specifically include equipment necessary to recover or generate hydrogen for purposes of utilization in the hydrogenation process. As amended, subparagraph (B) could read as follows:

(B) in the production or extraction of oil from oil-bearing shale rock, including property used

for hydrogenation (or for similar process subsequent to retorting) and property for recovery or generation of hydrogen for use in hydrogenation, but not including property used for refining.

Very truly yours,

C. P. Powell

Director of Taxes

CPP:gy

National Concrete Masonry Association

2302 Horse Pen Road
P.O. Box 781
Herndon, Virginia 22070
Phone (703) 435-4900

June, 1981

POSITION PAPER

NATIONAL CONCRETE MASONRY ASSOCIATION
on
PASSIVE SOLAR TAX CREDIT

The National Concrete Masonry Association strongly supports legislation which will provide a tax credit to builders for incorporating passive solar systems in new housing.

The utilization of passive solar systems in buildings is a key energy source which can contribute significantly toward solving the national energy problems. A well designed passive solar home can reduce non-renewable energy requirements by up to 80%.

The National Concrete Masonry Association with its headquarters in Herndon, Virginia, represents more than 800 member companies with more than 1300 manufacturing plants located in every major market area in all 50 states. Most of our members are classified as small businesses, none of which have the resources necessary to create and promote the market for passive solar heating and cooling systems in new housing.

Passive solar heating and cooling systems take advantage of the sun and the natural environment and substitute them for the scarce and expensive fossil fuels. A well designed passive solar system in a home can consume as little as 20% of the energy needed by homes equipped with conventional heating systems that rely on increasingly expensive and scarce fossil fuels.

The technology for building passive solar homes is well-developed today. NCMA and three other trade associations under a contract with the Southern Solar Energy Center and the U.S. Department of Energy have just completed a 600-page Passive Solar Construction Handbook. The manual contains construction details and how-to-do-it information for builders, architects and designers on the use of concrete masonry materials as well as information on other masonry materials and components of a passive solar system.

Builders control the design decisions in new home construction. About 60% of all of the new homes are built by developer builders who usually will build the house they know will sell. They are very slow to change designs and thereby increase their risk especially in our depressed market. The builders feel that there are two added risks involved. First there is the added construction cost of a passive home which amounts to 3 to 5%. Secondly, they are uncertain about the marketability of passive solar homes. The result is that the average home buyer does not have the option of purchasing a passive solar home.

The National Concrete Masonry Association supports the tax credit because it provides an incentive to builders to take the added risk in constructing a passive solar home. The $2000 maximum will not cover all of the added construction and marketing costs, but it will reduce the risks and thereby encourage developers to enter into this market.

The proposed legislation provides a simple workable definition of a passive solar system. It is based upon the performance of the system and not upon the costs of the components. And because of this, it encourages well built, well orientated and well insulated buildings, all of which contribute to a further reduction in energy requirements.

Passive systems are simple in design and are less expensive to operate and maintain since they have no moving parts that use energy and can break down.

Once installed, passive components perform their function for the life of the building. The dollar savings from reduced fossil fuel consumption and the low maintenance costs can be used to meet the high mortgage payments that prevail today.

Passive solar energy design can make a significant contribution towards our nation's overall energy conservation goals, and we support the passive solar tax credit because the credit goes where it will do the most good, to the builder. The credit will aid in removing the element of risk from the builder's decision to incorporate passive solar features. The fact that the amount of the credit is determined by the effectiveness of the system and not by the cost, encourages the use of efficient, cost effective passive solar designs and does not discriminate against larger builders whose installed costs may be less because of volume discounts. It also avoids the pitfalls of trying to determine the incremental cost of the passive solar components against the building materials it may have replaced.

Brick Institute of America 1750 Old Meadow Road, McLean, Virginia 22102 Phone: 703-893-4010

June 8, 1981

The Honorable Malcolm Wallop
Senate Finance Committee
2227 Dirksen Senate Office Building
Washington, D.C. 20510

Attention: Robert Lighthizer

Dear Senator Wallop:

The Brick Institute of America (BIA) is the national trade association for the manufacturers of brick and other structural clay products, having a membership which represents 83% of the annual production of brick in this country; in an average year that would constitute 9 billion brick worth nearly a billion dollars.

I commend the foresight of your subcommittee in making serious review of the passive solar concept as embodied in the Hart tax credit proposal, S. 498. We in the masonry industry are confident that passive solar, as assisted by the tax credit will reap great benefits in future energy conservation and environmental quality.

BIA believes the concept of start-up incentives to encourage builders to bring this technology into the marketplace is good and proper given the future projected benefits. A program expiration date, performance criteria to determine actual energy savings, and the amount of the tax credit, are all important provisions in the proposed legislation. These provisions demonstrate the extent to which this legislation has been well conceived and thoroughly refined.

Of particular note, of the five elements needed to qualify as a passive solar system, the three most critical, heat absorption, heat storage in a mass material and reradiation, are performed superbly by brick masonry. This explains the Brick Institute's interest in passive solar and it also explains why BIA has been the leader of the building materials industry in the development, promotion, and commercialization of passive solar design technology.

Seven hundred years ago American Indians in the Southwest discovered the energy efficiency of massive materials in homes built of adobe brick. The heat absorption and storage capacity of the brick walls tempered the heat of the day. At night, the adobe brick would reradiate the heat absorbed

during daylight hours, and provide warmth during the cool of the evening. These same principles are the fundamental properties of good passive solar design.

In the early seventies, before the term "passive solar" came into use, BIA was pursuing energy efficient buildings that incorporated the natural environment. In a BIA research publication printed in 1974, reference is made to building orientation, shape, fenestration, heat gain, heat storage capacity, reradiation, and the use of earth berms and natural ventilation. These fundamental factors of passive solar design and construction were first identified and quantified by BIA researchers, and today are part of the standard passive solar vocabulary.

In more recent years, rising energy costs coupled with a growing disenchantment with active solar systems, the public has begun to rediscover the simple principles of energy efficient design and the use of materials that will work with the environment instead of against it.

Today, BIA presents itself as a leading expert in the field of passive solar design and construction techniques. Our division of engineering and research has sponsored workshops for builders and architects in various regions of the country. These seminars highlight the technical refinements necessary for constructing climate-specific, and functional passive solar structures. Further, our engineers have produced and will soon release the second edition of a three volume set of guidelines for builders and designers to achieve the best possible solar yield for a particular area.

Beyond technical development, BIA has worked closely with the Department of Energy (D.O.E.) in the commercialization and promotion of passive solar products and design techniques. Unfortunately, these programs were eliminated in the Reagan budget proposals. BIA was a charter member of the then informal Passive Solar Industries Council. Together with D.O.E. and the Associated Collegiate Schools of Architecture, we co-sponsored a successful national design competition. Over 2,200 upper level architectural students submitted designs that incorporated the application of passive solar technology in commercial buildings. The winning designs from this competition have been displayed in numerous public arenas and have now been published.

In addition, BIA, its affiliated regions, and member manufacturers have produced numerous promotional and technical materials aimed at builders, architects and to the general public. Further, many BIA member manufacturers have constructed passive solar homes for display and testing, while being used as residences. Their experience demonstrates two important facts; that energy saving solar

homes need not look like "space houses" and are able to fit neatly into traditional neighborhoods. And secondly, passive solar houses do indeed perform according to design and fossil fuel heating needs significantly reduced in every day use.

To conclude, BIA is thoroughly convinced that passive solar design and construction is a major avenue toward future energy savings in our nation's homes and commercial buildings. However, two significant circumstances come to mind that would impede its broad scale use and acceptance by the general public.

There are certain up-front costs that would increase the initial cost of new homes. In today's housing market, builders can ill afford such additional risks even though the longer term benefits are great. A tax credit to builders would go a long way toward lessening their risks, and help get passive solar homes into the marketplace and before the general public.

A second major impediment that might be of potentially greater significance to public acceptance would also be addressed by a passive solar tax credit.

When active solar systems were introduced in the early 1970's the market was flooded with ill conceived and untested systems that were poorly designed and used second rate materials. The results were predictable. Unfulfilled claims of energy savings, frequent failures, and constant maintenance gave active solar heating systems a bad name. We must avoid this reputation being transferred to the concept of passive solar systems.

A tax credit will enable builders to consult with the appropriate design experts and use quality materials. In short, the credit will assist builders to construct passive solar systems that will be attractive and functional. If these two simple criteria are met in early demonstration, the passive solar concept will become accepted, and benefit both the consumer and the nation.

Sincerely,

John P. Gleason, Jr.
President

JPG:mm

GENERAL MOTORS STATEMENT ON S. 725 TO THE ENERGY AND AGRICULTURAL TAXATION SUBCOMMITTEE OF THE SENATE FINANCE COMMITTEE

General Motors appreciates the opportunity to submit this statement for the record of the hearings on the bill, S. 725, sponsored by Senator Malcolm Wallop.

We support passage of the bill, which would broaden the definition of energy property used to determine application of the 10 percent energy investment tax credit to include expenditures for the property needed to upgrade oil shale before it is refined.

General Motors has long advocated adoption of supply-oriented national energy policies. In our view, the energy investment tax credit approved by Congress in 1978 was a useful step in encouraging investment in synthetic fuels.

We do not understand, however, why oil shale production was given less favorable treatment than other alternative fuels -- such as coal gasification, liquefaction, solar, ocean thermal, wind and biomass -- for which a much larger percentage of the project costs qualify for the energy investment tax credit. We support S. 725 because it will correct this inequity and insure an evenhanded application of the tax credit.

Because of the great quantities of oil shale available in the U.S. and the extensive technological and scientific work that has been done on developing ways to mine and upgrade oil shale, we believe oil shale could play an important role in providing transportation fuels in the future. Indeed, as we attempt to rank

the usefulness of alternate fuels for the transportation sector, we believe gasoline and diesel fuel from oil shale appear to be the most likely supplement to petroleum. Hydrogenation of kerogens found in oil shale produces a synthetic crude product which can be refined to yield gasoline and diesel fuel. The Wallop bill and Representative Jenkins' proposal, H.R. 2133, would extend the energy investment tax credit to include this hydrogenation process.

We appreciate the opportunity to submit these comments and urge early passage of S. 725.

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