

Connecticut Public Acts

SB 175	PA 490	1977
Senate	2858-2860, 2954-2955	(5)
House	5486-5496, 5542-5543	(13)
Reg. Activities	95-97, 102-103, 115, 117-118, 126, 128-129, 141-144, 146, 164-168	(19)
Finance	299-300, 308, 326-331, 334-338	(14)
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SENATE

WEDNESDAY

MAY 25, 1977

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SENATOR GUIDERA:

I did not vote and I would like to have an opportunity to vote, Mr. President.

THE CHAIR:

All right. I think that inasmuch as the fact is you were not advised that the vote was pending, is there any objection to - as Tony Miller requested to begin with, that we cast the vote again? That's page seventeen, item at the top, Calendar 1004. Announce it again and I hope you reach all quarters.

THE CLERK:

Immediate Roll Call has been ordered in the Senate. Would all Senators please return to their seats. An immediate Roll Call has been ordered in the Senate. Would all Senators please be seated. Yes.

THE CHAIR:

Yes, Senator Lieberman.

SENATOR LIEBERMAN:

I am most sorry to be disruptive, but I would like to ask that this matter be marked passed retaining.

THE CHAIR:

Is there any objection to the matter being marked PR? So ordered. Cancel the vote. You're being a little obstructive, you know.

THE CLERK:

Turning to page two of the Calendar, under the heading Favorable Reports, Calendar 237, File 1073, Favorable Report of the Joint Standing Committee on Finance, Substitute Senate Bill 175, AN ACT CONCERNING PROPERTY TAX EXEMPTION FOR SOLAR ENERGY SYSTEMS.

SENATE

WEDNESDA_Y

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THE CHAIR:

Senator Beck.

SENATOR BECK:

Mr. President, I move acceptance of the Committee's Favorable Report and favorable action on the Bill.

THE CHAIR:

Will you remark on the Bill, Senator?

SENATOR BECK:

The Bill is permissive in nature. It clarifies the language of preceding legislation which would permit exemptions. It's permissive only from property tax of solar energy collection systems. A number of towns have adopted legislation under this permissive language but have not understood that the Bill was to have been broadly conceived to include solar energy collection systems on old buildings and additions as well as new construction. This will completely clarify that legislation. It came originally from the Committee on Regulated Activities and we strongly urge adoption of the Bill. If there are no questions I move that it be placed on Consent.

THE CHAIR:

I understand, Senator Beck, that there is an Amendment in the hands of the Clerk. There is an Amendment. Let's see what it is.

THE CLERK:

Senator O'Leary's Amendment. Is he in the caucus room? I'm sorry. Clerk has Senate Amendment, Schedule A, File 1073, Substitute Senate Bill 1175, LCO 5884, offered by Senator O'Leary. Copies are on the desks.

THE CHAIR:

Senator O'Leary.

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SENATOR O'LEARY:

Mr. President, could we pass that item temporarily until we can get the copies. I think they're not on the desks at this time.

THE CLERK:

I'm sorry. We don't have the copies.

THE CHAIR:

We're going to pass that matter and the Chair is going to call a halt in the Calendar at this juncture just briefly and call forward the two splendid Senators from Bridgeport, Howard Owens and Sal DePiano, for a very pleasant task. Bring your guests right with you. The Chair recognizes Senator Owens, Bridgeport.

SENATOR OWENS:

Mr. President, Members of the Circle, honored guests, it is with a great deal of pleasure that I present to Leland Miles, Dr. Leland Miles, President of the University of Bridgeport, Senate Resolution No. 60, introduced by myself and Senator DePiano of the 23rd, commending the University of Bridgeport on its 50th Anniversary which will be on May 27, 1977. And the University of Bridgeport, as we all know, is an independent, co-educational, non-sectarian institution with an 86 acre campus on Long Island Sound in Bridgeport. They have 7,000 full and part time students enrolled in the Graduate and under graduate program and 7 colleges, arts and sciences, business administration, education, engineering, fine arts, health sciences and University College. They have a full time faculty of 259 key persons, supplemented by 210 qualified professionals who teach on a part time basis. It has - the University of Bridgeport has students from 32 states, 3 territories and 37 foreign countries and approximately 2000 live on campus. The University awards Associate, Bachelor and Masters

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The Motion for Reconsideration has passed.

THE CLERK:

The Clerk had previously passed four items.

THE CHAIR:

Senator Cutillo.

SENATOR CUTILLO:

Mr. President, I would ask that our action just now, that the Bill would be passed retaining.

THE CHAIR:

Unless there's objection, so ordered.

THE CLERK:

Turning to page two of the Calendar, Calendar 237, File 1073, Favorable Report of the Joint Standing Committee on Finance, Substitute for Senate Bill 175, AN ACT CONCERNING PROPERTY TAX EXEMPTION FOR SOLAR ENERGY SYSTEMS.

THE CHAIR:

Senator Beck.

SENATOR BECK:

Mr. President, the Clerk has an Amendment.

THE CLERK:

Clerk has Senate Amendment, Schedule A, Substitute Senate Bill 175, LCO 5884, offered by Senator O'Leary.

SENATOR BECK:

Mr. President, I would request that we waive the reading of the Amendment which was prepared by Senator O'Leary. The purpose of the Amendment is to specify in the Bill, that new construction of a solar energy system, whether the building is old or new, will be exempt from the local property tax on agreement by the local ordinance and the local town. By and large, the towns

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have interpreted the legislation as it is now written but this is to clarify and make explicit the understanding of the Finance Committee, the Tax Department and many of the towns now under the legislation. I move acceptance of the Amendment.

THE CHAIR:

All those in favor of the Amendment signify by saying aye. Those opposed nay. The ayes have it. The Amendment is adopted. Senator Beck.

SENATOR BECK:

Mr. President, I move acceptance of the Committee's Favorable Report and favorable action on the Bill.

THE CHAIR:

Will you remark?

SENATOR BECK:

Mr. President, the purpose of the Bill is to permit local towns, if they want to, to exempt solar energy systems from the local property tax. We hope this will encourage further action. A number of towns already acted under this legislation. If there is no objection, I would move that it be placed on Consent

THE CHAIR:

Hearing none, so ordered.

THE CLERK:

Turning to page five of the Calendar, Calendar 780, File 375, Favorable Report of the Joint Standing Committee on Judiciary, Substitute for House Bill 7975, AN ACT ADOPTING THE MODEL STATE PUBLIC WEIGHER LAW.

THE CHAIR:

Senator Lieberman.

SENATOR LIEBERMAN:

Mr. President, I move acceptance and passage.

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HOUSE

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VOL. 20
PART 13
5235-5673

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For what purpose does the lady rise?

UNIDENTIFIED REPRESENTATIVE:

I would like to object to one of those bills being put on Consent.

THE SPEAKER:

The Chair has just ordered the matters to Consent. The Chair will withdraw his order and ask the lady to be kind enough to share with us her objection.

UNIDENTIFIED REPRESENTATIVE:

Yes, it's on Page 5, Cal. No. 1326, S.B. 492, File 1120.

THE SPEAKER:

The lady's objection is noted. The matter is removed from the scope of the motion. Are there any further objections? Hearing none, Cal. No. 13, 17, 18, 19 and 20 and 25 are ordered to Consent at this time.

THE CLERK:

Page 5 of the Calendar. Cal. No. 1327, Sub. S.B. 175, Files 1073, 1153. AN ACT CONCERNING PROPERTY TAX EXEMPTION FOR SOLAR ENERGY SYSTEMS AS AMENDED BY SENATE AMENDMENT SCHEDULE "A". Favorable Report of the Committee on Finance.

THE SPEAKER:

The gentleman from the 100th.

REP. LAVINE:

Mr. Speaker, I move the Joint Committee's Favorable Report and passage of the bill as amended by Senate Amendment Schedule "A".

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THE SPEAKER:

The question is on acceptance and passage. Will you remark?

REP. LAVINE:

Yes, Mr. Speaker. Mr. Speaker, previously we have enacted into the statutes, legislation which allows municipalities by ordinance to give property tax exemption for those residences which would have solar heating and cooling systems for new buildings. Basically, this bill extends now the privilege to buildings which were built prior to 1976 which had been the date that the law spoke to so this has been the substance of the bill before us. I would like to move adoption of Senate Amendment "A".

THE SPEAKER:

Is the gentleman calling LCO 5884, Senate "A"?

REP. LAVINE:

Yes, Mr. Speaker.

THE SPEAKER:

Will the Clerk please call?

THE CLERK:

Senate Amendment Schedule "A" offered by Senator O'Leary, 7th District.

THE SPEAKER:

Does the gentleman seek leave to summarize?

REP. LAVINE:

Yes, Mr. Speaker. Basically what this Senate Amendment does is to bring to October 1, 1976 the starting date for the

ordinances which would be passed for the buildings which would be getting solar property tax exemption for solar units. It conforms to the act which we have on the books for new units and it places the date the same as those new units for the older units which municipalities would be adopting this ordinance. Mr. Speaker, I would move the adoption of Senate "A".

THE SPEAKER:

The question is on the adoption of Senate "A". Will you remark further on its adoption? The lady from the 108th.

REP. OSIECKI:

Through you, Mr. Speaker, a question to the Representative on Senate "A".

THE SPEAKER:

Please frame your question.

REP. OSIECKI:

Mr. Lavine, there's more of a change than that, isn't there, in Senate "A"? Are the regulations in effect now?

REP. LAVINE:

Mr. Speaker, through you. It is my understanding the regulations are not in effect.

REP. OSIECKI:

Through you, Mr. Speaker. I just received a copy of Senate "A" too. Could you tell me how this is going to affect towns which have adopted an ordinance now where we're saying in line 63 that which meet standards established by regulations by the Commissioner of planning and Energy Policy.

REP. LAVINE:

Mr. Speaker, through you. It is my understanding that

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those regulations ~~have~~ been circulated and that regulations have yet to be adopted ~~but~~ there is a proposed set of regulations which have been put forward.

REP OSIECKI:

Through you, Mr. Speaker, can you tell me if the Department of Planning and Energy has yet held hearings or published in the Law Journal proposed regulations?

THE SPEAKER:

Does the gentleman care to respond?

REP. LAVINE:

Mr. Speaker, I cannot tell the lady whether they have held hearings. I do know that proposed regulations are out and they have circulated and they are out for comments.

REP. OSIECKI:

Mr. Speaker while I support the bill and I support any experimentation in the solar energy field, I believe on this bill, as in one passed last week that we're wrong to speak to regulations until there is more known about the field. I know personally that the Commissioner of Department of Energy Planning and Policy objected strenuously to proposed regulations of the Department of Public Works which were circulated and hearings were held on last December and January. I am not aware of receiving any regulations and I do serve on the Regulations Review Committee and I would not like to see anything held up on any previous statutes we have adopted while we wait the promulgating of regulations. I would ask, through you, Mr. Speaker, tthat if there is anyone in the House or the Chairman

of the Committee who could address this that it might be beneficial to all of us..perhaps we would find it not necessary to adopt Senate "A". (End of Tape #4)

REP. LAVINE: Mr. Speaker, if the lady would repeat the question, we might be able to get an answer for her.

REP. OSIECKI:

Through you, Mr. Speaker I'll first state my objection and perhaps I can frame a question which you could understand better. The intent of any of our activity in passing legislation in the field of solar energy is to encourage experimentation, to keep the field as broad as possible so that we might learn from the pioneers in this field of our future potential. I just hurriedly took the Senate "A" and tried to match it up to the bill which we are supposed to be addressing ourselves to today. I see that in it, the Commissioner of the Department of Planning and Energy Policy is required to meet..that anyone applying for this exemption would have to meet standards established by regulation by the Commissioner of Planning and Energy Policy. To my knowledge there are no regulations and there are none proposed yet to the Regulations Review Committee. There were regulations circulated by Public Works last year which were strenuously objected to by over 60 people at a public hearing and that they would have locked into the solar energy field certain suppliers, certain licensed contractors which is direct contradiction--contradictory to what we want to do when we adopt solar energy legislation. I am concerned and perhaps through you, Mr. Speaker

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(Tape #5)

Mr. Lavine or the Chairman of the Committee could tell me in any way will Senate "A" and the requirement for standards by regulations interfere with those towns which have already adopted the ordinances, interfere with people who are today experimenting with solar energy and if they know how soon the regulations will be coming to the committee that is in charge of adopting them for the General Assembly.

THE SPEAKER:

The gentleman from the 27th.

REP. BALDUCCI:

Thank you, Mr. Speaker. Hopefully to help answer the lady's question, the Department of Planning and Energy is in the process of coming up with regulations dealing with all areas of solar energy and I'm sure she knows and is very much aware of the fact that solar energy is a relatively new field and one in the last couple of years that we have been getting into due to the lack of or due to the problems with energy in general, fossil fuel in particular. Speaking last week to one of the members of the Department of Planning and Energy, they are in the process of constructing regulations which will relate to all areas of solar energy and related matters. I definitely can't say that these regulations won't affect towns which have already adopted ordinances. I would like to think and this again is just opinion, that they would not affect those towns. I don't know if I have answered the lady's question, Mr. Speaker.

THE SPEAKER:

The lady from the 108th still has the floor. The gentleman

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from the 27th was responding to her last pending inquiry.

The lady from the 108th.

REP. OSIECKI:

Thank you, Mr. Speaker. Mr. Lavine, in your opinion, does the change in date from 1977 down to '76 as changed by Senate Amendment "A" apply only to those homes which would be eligible for a tax exemption under this new bill..the addition rather than the full construction?

THE SPEAKER:

Does the gentleman care to respond?

REP. LAVINE:

Mr. Speaker, through you, yes, because the new buildings are already covered by the date October 1, 1976. New construction was dated as of October 1, 1976. When the bill was drafted, construction of previous houses built prior to October 1, 1976 were made eligible as of October 1, 1977. What the amendment seeks to do is to put the starting date back to October 1, 1976 to conform it with the date found in the statute for those houses which would be termed new construction.

REP. OSIECKI:

Through you, Mr. Speaker, please. Mr. Lavine, in your opinion would you tell me that if Planning and Energy Policy failed to adopt regulations by October 1, 1977 how anyone claiming an exemption under this file now would be affected?

THE SPEAKER:

Does the gentleman care to respond?

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REP. LAVINE:

Mr. Speaker, I would assume that the definitions that would be accepted by the assessor in granting this would be in relationship to the regulations which have been adopted by the Department of Energy Policy and Planning. However, it would seem to me possible for the assessor to give an exemption to an individual who would be constructing a solar unit. I think that we should note that solar units take a certain amount of time to construct and I think we should also note that the proposed regulations from DPEP are out circulating so I would hope they would have a happy confluence.

REP OSIECKI:

Thank you. I would support the bill and I will trust the opinion of the proponent in that a town which I represent which has adopted an ordinance allowing a tax exemption on newly constructed property to be eligible for this and if this file will in no way interfere with that tax exemption.

THE SPEAKER:

The gentleman from the 100th to respond--

REP. LAVINE:

Mr. Speaker, I think we should point out that the towns which have adopted the Public Act 76-409 under those terms would be covered by this particular act and the changes made herein. The towns which have adopted ordinance and language thereof would in all probability, have to re-amend their ordinance anyway under this edition.

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THE SPEAKER:

Will you remark further on the amendment? The gentleman from the 90th.

REP. VARIS:

A question through you to..

THE SPEAKER:

Please frame your question.

REP. VARIS:

Sir, could you explain the rationale of why in line 6, "or addition to a building" was deleted?

THE SPEAKER:

Does the gentleman care to respond?

REP. LAVINE:

Mr. Speaker, through you, it is my understanding that this is specified later on in the act and that this was part of the language change within the bill but it is found later on within the body of the bill.

THE SPEAKER:

The gentleman from the 90th.

REP. VARIS:

Thank you for your explanation, sir. I hope that's the true meaning of the way it will be interpreted because I envision buildings which might be expanded by a factor of two or three where the roof lines might be changed and a builder might add only to the new part portion to the addition also and I would hope that it would all be covered. Thank you.

THE SPEAKER:

The question is on adoption of Senate Amendment Schedule "A". Will you remark further on Senate "A" or are you prepared to vote? Excuse me sir, I didn't realize you were retaining the floor. The gentleman from the 90th has the floor.

REP VARIS:

Yes. I was trying to find where in the bill it covers my earlier question and I haven't been able to locate it. Perhaps Mr. Lavine could help me on that.

REP. LAVINE:

Mr. Speaker, on line 11 where it says "is added on or after" I believe that any building to which a solar system or heating system is added on .. I think that may have a slight language problem but the "added" at that point is talking to the addition there.

REP. VARIS:

Thank you, sir. I would certainly support the bill with our energy crisis the way it is. Any innovative laws that we can make in this area should have the support of this complete House. Thank you.

THE SPEAKER:

The question is on Senate "A". Will you remark further? If not, the question is on adoption of Senate "A". All those in favor of adoption of Senate "A" will indicate by saying AYE. Opposed? The Ayes clearly have it. Senate "A" is ADOPTED. Will you remark further on the bill as amended?

REP. LAVINE:

Mr. Speaker, during the discussion of the amendment we have touched on much of the bill. I think that the only additional point to note on the bill is that there is a second section which extends Public Act 76-409 to allow an exemption for solar electrical generating systems which are wind mills, water wheels and photovoltaics in section 2 starting at line 49. In general, I think we can summarize by saying that this is a step forward to allow a community to grant that portion of the solar system which is used for the generation of either space heating or that portion which is used for the generation of electrical heat if it's a residence, space heating if it's a business or industry to get property tax relief, if the town so deems, for that portion of the system and only that portion of the system which is either generating the heat or the electricity. I think this an important step forward and I would urge us all to adopt it.

THE SPEAKER:

The gentleman from the 5th.

REP. CARRAGHER:

Mr. Speaker, may this bill be passed temporarily?

THE SPEAKER:

Is there objection? Hearing none, it is passed temporarily.

THE CLERK:

Page 4 of the Calendar. (END OF TAPE #5) Calendar No. 1321, File No. 1133, Substitute for S.B. 396. AN ACT CONCERNING GRANTS IN LIEU OF TAXES ON STATE OWNED PROPERTY. Favorable report of the Committee on Appropriations.

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THE CLERK CONTINUED:

Those Voting Yea..... 18
 Those Voting Nay.....130
 Absent and Not Voting..... 3

THE SPEAKER:

The bill FAILS.

THE CLERK:

Page 5 of the Calendar. Calendar No. 1327. Sub. for Senate Bill 175. Files 1073, 1153. AN ACT CONCERNING PROPERTY TAX EXEMPTION FOR SOLAR ENERGY SYSTEMS (As amended by Senate Amendment Schedule "A".) Favorable report of the Committee on Finance. The House previously adopted Senate "A".

THE SPEAKER:

The gentleman from the 100th.

REP. LAVINE:

Mr. Speaker, I move the Committee's favorable report as amended by Senate Amendment Schedule "A".

THE SPEAKER:

The question is on adoption of the bill as amended by Senate Amendment Schedule "A". Would you remark, sir?

REP. LAVINE:

Very briefly, Mr. Speaker. Just to say that we have discussed this bill earlier this afternoon. In section 1 of the bill it extends an ability for localities to pass an enabling ordinance giving property tax exemption for solar systems in buildings which were constructed prior to October 1, 1976 and this would be residential, commercial and industrial.

The second section of the bill would allow localities to grant an exemption..property tax exemption..for residential buildings which would be putting in solar systems for electrical generation and that would also be as of October 1, 1976 and I move the passage.

THE SPEAKER:

Will you remark further? If not, will the members please take their seats and the staff and guests please come to the well of the House. The machine will be opened. (END OF TAPE #11) Have all the members voted? The machine will be locked and the Clerk will take a tally. Will the Clerk please announce the tally?

THE CLERK:

Total Number Voting.....	147
Necessary for Passage.....	74
Those Voting Yea.....	147
Those Voting Nay.....	0
Absent and Not Voting.....	4

THE SPEAKER:

The bill as amended is passed.

THE CLERK:

Page 18 of the Calendar. Calendar No. 858. House Bill No. 5508. Files 767, 1042 and 1158. AN ACT CONCERNING LIABILITY OF EMPLOYEES OF DISTRICT DEPARTMENTS OF HEALTH AND CONTRACTS BETWEEN MUNICIPALITIES AND VOLUNTEER AMBULANCE COMPANIES. (As amended by House Amendment Schedule "A" and Senate Amendment Schedule "A") Favorable report of the Committee on Government Administration and Policy.

**JOINT
STANDING
COMMITTEE
HEARINGS**

**REGULATED
ACTIVITIES
PART 1
1-367**

**1977
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PRESIDING CHAIRMEN: Senator Cornelius O'Leary
Representative Richard Balducci

MEMBERS PRESENT:

SENATORS: O'Leary, Gunther

REPRESENTATIVES: Balducci, Leary, McCluskey, Gejdenson, Wellman
Lavine, Stober, Seres, Robertson, Palmer

SENATOR CORNELIUS O'LEARY: May we have your attention? The Regulated Activities Committee is about to begin public hearings on bills related to Solar Energy and Conservation.

I'm Senator O'Leary and this is Representative Balducci. We're co-chairmen of this committee. When I call you, then, the secretary has asked me to remind you to sign in, if you plan on speaking. This is the list of speakers and if you come over here andyou can have them.

If you have a written statement, would you please leave a copy with our assistant clerk. And please identify yourself, your name, and for whom you speak. For the record. And we'll ask you to use the microphone when you sit down there.

The first speaker is Senator Schneller.

SENATOR SCHNELLER: Mr. Chairman, and members of the committee. For the record, Senator Dick Schneller from the 20th District. I am here this afternoon to speak in favor of several bills.

First, the bills that I would like to refer to are proposed Senate Bills 175 and 179. Which deal with property tax exemptions for solar energy generating systems and some amendments to the legislation that was passed last year. Public Act 76-409. And I'll talk about both of these at the same time. Because both of these are proposed bills and in my opinion, need some re-work as a committee bill by this committee.

But, I would like to bring to the attention of this Committee, the fact that 76-409 was passed last year, which permits exemptions to each town. Property tax exemptions and solar installations was really a compromise bill, that was finally enacted last year. The original bill, which I introduced as a member of this Committee, and which was given a favorable by finance, was a bill that would have made mandatory, property tax exemptions on solar energy systems.

SEN. SCHNELLER continues: The Finance Committee in its wisdom indicated that it was not willing to give a favorable on this bill, unless the term mandatory was changed to permissive. Now, in my opinion, while I voted for the Bill on the floor of the Senate, this was an unwarranted compromise, because we already are seeing instances of communities which have voted to oppose the adoption of such an ordinance.

The purpose of the bill was in some small way to stimulate the use of alternate sources of energy, particularly solar energy in our communities and to provide some small incentive, small as it is. For individuals and business who might want to go the additional expense of installing a solar system, to provide them the opportunity, so that they would not be assessed the additional property tax, by going through that additional expense that would be required. And, so I would ask this committee, in raising a committee bill, to seriously consider the possibility of including in that committee bill, the mandatory requirement of property tax exemptions, that this committee passed on favorably, last year.

In combination with that, to include, that's proposed bill 175, includes solar energy generating systems, as well as the heating and cooling systems that are provide for in the present legislation. And, to further clarify some technical aspects of the legislation to make it crystal clear, that this legislation applies to all of the existing buildings, into which the solar insulation was added.

I might just further comment that, in addition to this proposed legislation, I would certainly hope that this committee would develop a strong package of legislation that would bring to the state, a forceful program of developing alternate sources of energy, than we have developed to date.

As a member of this committee 2 years ago, I proposed several pieces of legislation. One that would provide for a solar energy research center at the University of Connecticut, and we have no such research center in the State at the present time, that can be used as a center to attract Federal Funds and a great deal of that funding is going to States other than Connecticut today. I looked upon it as a need that would solve several problems in several areas. I think that as a state, as a high technology state, we should be doing more than we're doing in the development of alternate energy sources. I look upon alternate sources of energy as one of a industries in the next decada, the next few decades. Connecticut has always been on the ground floor, of high technology industries and I think this would have been a small investment that would pay big returns.

EN. SCHNELLER continues: Now, because there was a hundred thousand dollar price tag on it, while it was approved by this committee, it got nowhere in the Appropriations Committee. Similarly, we approved a....gave a favorable to a bill that would have provided for grants, to industry, that.....to encourage small industry in the state, for, getting into the area of alternate sources of energy and that too, got as far as the Appropriations Committee. So that I hope, I would urge this Committee to consider that type and other types of legislation that will put Connecticut a high technology state in the forefront of the development of alternate sources of energy whereas now we appear to be doing little, or nothing, as a State in this area.

In this connection, I propose that Senate Bill 176, which would provide tax exemptions on solar energy collector systems. I trust that this committee would look upon such a proposal in a favorable way.

Moving on to Senate Bill 177. Which is a sales tax exemption for insulation materials. I think alternate sources of energy and energy conservation have almost become synonymous today, and these speakers, that I'm sure you'll hear this afternoon will tell you that one of our greatest sources of energy, that we could find today, it will be in conserving the use of energy that we have at the present time and I think that we ought to encourage citizens of the State by offering to waive the sales tax on certain types of insulation materials that would provide incentives for our citizens to insulate their homes, their businesses and provide this type of incentive for eliminating the tax on such items as specified as thermal doors, weatherstripping and items of similar nature.

I'd also like to speak in favor on Senate Bill 178, which I introduced 2 years ago, which would require a life-cycle cost analysis of state-funded building projects. This would require that any state-funded project provide in it, an analysis of various types of energy systems, in that they reflected over the life of the building. So that a determination can be made, as to the most cost-effective system to install, not just what the initial cost would be. I think that we'd find that we'd be moving into some different types of energy systems. And I think it would also set a very important example and lead for the private industries in our State.

Finally, I would like to speak in favor of Senate Bill 657, which would provide to ... tax credit against the State Corporation Tax for research and development in alternate sources of energy. I think this again would encourage Connecticut Industry to become more involved in the development of more energy sources which I think is well-needed in this

REP. LAWLESS continues: Much of what I would have said, was covered Senator Schneller. You have before you a large number of bills that deal with solar energy and with conservation. Many of them are duplicated to a degree, and unfortunately as you were pointing out, many of them only can accomplish a small amount. In fact, the issue of energy conservation and alternate sources of energy is, in my hills, in one of the most important issues facing our country and unfortunately, much that can be done has to done at the national level. But I think that it is extremely important for the State to take the meaning in every way that it can, because otherwise, as Senator Schneller was saying, nothing will be done.

To me, even though we can only offer mild incentives, it's important that we offer these incentives and show that the State is concerned and working towards improving these problems. And it's in this sense that I urge you as a Committee, to view these bills and try to find bills that are meaningful and useful and which will show that the State of Connecticut is concerned and is taking action on the two areas of alternate energy sources and conservation. Thank you.

SEN. O'LEARY: Any questions? Thank you. Commissioner Brooks.

COMMISSIONER BROOKS: Thank you Mr. Chairman. I'm Lynn Alan Brooks Commissioner of the Connecticut Department of Planning and Energy Policy. I have a great interest in all the bills that are on the list today and I'd like to go thru them and just present some viewpoints and be glad to answer any questions the Committee might have.

Starting out with 175; 175 and 179 are connected, in the sense that after we, the bill passed last year which allowed municipalities to adopt the property tax exemptions, we discovered that there were some ambiguities in the language dealing with solar-electric-generating kinds of systems, and so we have attempted to clarify that thru some technical amendments which is 179.

On doing that however, people look at that bill and thought we were trying to pull windows and a whole bunch of other things out of the whole provision of the statute, and so you have to read both 175 and 179 in context with each other. They're companion bills, intended to cover the whole scope of solar energy kinds of systems. And I think read together, they do that. So we urge your favorable consideration of those two bills.

We have a number of bills in on sales tax exemptions for solar energy system collectors. And also systems. The bill that the Department favors is one which at this point, limits the exemption to collectors. The reason for that is, Administration as much as anything else, in that you put a burden on people selling all of the various components of

COMM. BROOKS continues: of solar energy systems, including such things as copper pipes and different other kinds of pipes to make a determination of individual cases, when someone comes in and says he's building a do-it-yourself, solar system and he wants a tax exemption for some cold-water pipe or some copper tubing. And, so we have tried to limit it to something, we believe is manageable, that you can define, and so forth. Which we also believe will give an incentive out there for people to move into this market. So, we would favor a bill which would define rather narrowly and definitively those items of solar systems which are in fact, subject to exemption from the sales tax.

I believe that Bill 176 is the bill that does that. With respect to insulation materials, 177 is a bill that was submitted last year and was, did not receive a favorable because of the fiscal note. We have determined over the past year, in looking at this again that we believe the incentive is still needed. We believe that it is a timely incentive and one which will do a great deal of good within the state in terms of the savings that can be achieved. We estimate, that at this point, 10% of the homes in Connecticut have no insulation and about 10% of the homes are well insulated and 80% of the homes are partially insulated. And, that 80% and 90% of homes, and therefore, need some insulation, and so we think that this bill is one that is needed and is in the area which needs a great deal of work.

We do believe however, that we probably can lift the ceiling of \$700.00 which was put into this bill last year in an attempt to make sure that you didn't have the contractors coming in and buying up huge amounts for big complexes and that sort ofwe're not certain that makes any difference anymore. We think you just take the ceiling out of here, you get by the ceiling anyhow by just shopping in one or more different stores, where you bought the insulation. So, we would just recommend that you just take the ceiling right out of there. But, otherwise, we think the bill is important and timely.

REP. STOBBER: On that bill....Stober....While we're on that bill, Do you have the word storage up there in (inaudible - someone is coughing and sound is distorted) around 20½. Do you really have storage or warehousing where insulation would be allowed? This sort of thing.....I think you're talking about the use of, or the consumption of. But I also read the word storage.

COMM. BROOKS: No, I would have to agree with you, we're really talking about the use and consumption. Yes, if when we drafted the bill we had another purpose in mind, I'll let you know. I can't think of it offhand.

COMM. BROOKS: See, I think we're looking at 2 different problems here, Okay? I'm not attempting in these bills or suggesting that these bills can even get to the question of the size of the building or whether you build a building or not. The only thing this will get to, is once you have decided to build a building of a certain size, it can tell you what kind of heating system and what kind of energy systems you should use in that building, so that over the total life of the building, you spend less money. Okay?

If we're going to get into the question of should you build it? Then, I think we're in another whole area. But these bills are clearly not intended to get into those question areas, but instead are to say, O.K. you decided to build a building of so many thousand square feet, how should you heat it and cool it? O.K. And this bill is designed to get at that particular problem only.

SEN. O'LEARY: Thank you Commissioner.

COMM. BROOKS: Again, I would just offer any help my department can give you. We do these kinds of analysis, we can give you some figures. I've got some figures I'd like to send over to you, for the committee's perusal, I noticed that Jim Sandler who is Chairman of the Connecticut Energy Advisory Board was here and had to leave, he might make it back, but if he doesn't, he authorized me to state that Bill's one, I believe 171 or where does this start? 175 thru 179 are entirely consistent with the annual report of the Board, both last year and this year. Very little of which was done last year, and he urges the favorable adoption of the bills in this generic area to be passed, to help over the long haul, to reduce our energy problems and potential imbalances that might occur in future years.

Jim might make it back and give you that word himself, but he did authorize me to say that, so that you would have at least that in the record.

REP. STOBBER: I just have one quick question and that's on this life-cycle analysis. Would there be, would it be necessary that this bill carry an appropriation this year so that it had to go to appropriations?

COMM. BROOKS: Umm,

REP. STOBBER: Because there's nothing indicated in here,....

COMM. BROOKS: Yes Before I answer that, I would really like to get together with Commissioner Weinerman and I will do that and get back to you and tell you whether or not there would be any additional expense.

MS. COHEN continues: requirement that the specific heating system be looked at and examined. I think that this is especially important in light of solar energy and in light of the very low operating costs, but higher initial costs of solar energy systems.

An argument against life-cycle costing in the past, has been that it will cost the State too much money to implement. And I've been in communication with the State of Florida. And the State of Florida implemented such a program 2 years ago at an initial cost of \$100,000 which was broken down into \$75,000 for the consultants which from then on worked free for writing 3 working manuals and a computer program. The Florida life-cycle energy evaluation technique, and the remaining 2500 funded an engineer in which they hired and paid this ladies expenses. Now, even at \$100 per building which was the cost of the computer run, the State of Florida examined 22 large buildings and with what they feel to be an average energy reduction of 55%, in those designs, and Florida officials told me that they expect to have save over 13 million dollars thru the energy efficiency of those designs, making it a substantial savings. That's over a 10 year period --- thirteen million dollars.

And at the end if you examine this bill, for the life-cycle analysis, you find initial savings are paid back in Florida by the amount of money they expect to save. Ummm, the example of Florida does substantiate the positive view of life-cycle costing, that the National League of Cities in the U.S. Conference of Mayors in cooperation with the Energy Policy Task Force of the consumer federation of America, stated what they feel. That addition fees for architectural engineers to make the study will be paid back in the savings of the buildings. And I'd just like to end by saying I think this is a very meaningful kind of energy conservation bill and should be raised by the committee.

In relation to the tax incentives for the solar systems and insulation, CCAG supports all these tax incentive bills and feels that they will encourage energy conservation and solar in the state. We look at solar energy as a long term negative energy conservation as it does save fossil fuels by taking advantage of the renewable energy of the sun. As representatives of Connecticut Solar Industries that were here today, can testify, solar energy development does not need a technological breakthrough right now. It needs a government committment and it needs the financial backing to that committment and the public financial backing to that committment. And I think that these tax incentives can do that. We would support the House Bill 175 allowing towns to give property tax exemptions for solar-electrical generating systems. I think that this would be a logical extension

MS. COHEN continues: of the bill passed last year, allowing towns to give property tax breaks for solar energy systems. And I think that this is a bill that would look into the future, because, much of the generating systems now are not used in Connecticut but in the next 15 years, they very well might be.

We'd also support Senate Bill 176 allowing sales tax exemptions of solar energy collectors. Although we feel that it doesn't go far enough. And we also feel it doesn't have quite as much trouble as Commissioner Brooks might feel in one area, of people who buy trans-store and storage equipment, is that we agree that there would be a problem if everyone wanted to do it and went in and said I'm going to buy this material and bring it home and use it for my solar system. However, I think that so many solar companies that I know of in Connecticut, only sell the solar collector, not transfer and storage material. And that if, although they know what kind of material to use and what I would suggest, to be put into this bill, is the allowance that if one is buying a solar collector, that the company he buys from could certify you, the solar collector buyer, certify that you are buying a collector that you need such and such material for storage and transfer and allow those materials to be exempted from the sales tax.

I think also one more point in terms of solar tax incentives is that as Commissioner Brooks mentioned, there are no fuel costs once the system is put into effect. Only the initial cost of the solar equipment, so when one buys a solar system, they're making an investment which reduces the overall use of fuels and presently there is no sales tax on home heating fuels and this would be, in a time like this, say in the event of an emergency, we feel that it's only fair that there should also be no sales tax on heating systems which conserve fossil fuels, as in solar energy.

CCAG would also support raising Senate Bill 177. We feel it's a companion bill to the solar sales tax exemption for solar systems, in it being the sales tax exemption for insulation materials. Is that insulation materials are important for conventional homes and also especially important for solar homes and in a sense, would be part of the solar system equipment, in the sense that it would, you would help reduce energy costs even for a solar system.

We feel that insulation materials do have a complete pay back if you have a non-insulated house, and I've included a chart with this also, showing pay back times for adding insulation to a house with no insulation and a house with some insulation, which you can peruse at your leisure. Especially, in light of fuel shortages in cold weather, I think that a sales tax exemption for insulation shows to be especially important.

UNIDENTIFIED SPEAKER: Can you refer to the number of the bill. . . .

MS. SMITH: O.K. Right, O.K. thank you, I meant to do that. I forgot.

Concerning bill number 179 and 5651, we would support these technical amendments, we feel that they should apply all forms of solar energy and to the development of all components of solar systems. I would point out to you, that as far as I know, there are about 40 solar heated houses in the State, this represents a trivial loss of revenue to the State. And I feel that in the recently new future, massive development of this type of heating system would not represent a great loss of revenue to any particular municipality. And it would encourage future . . . you know, people to go into this without having hardship's on them.

Alright concerning the sales tax bills, we support bills 176 and 5266. We feel that you shouldn't, you should limit the tax exemption to collectors to make it easier to facilitate the bill. This is better than nothing. O.K. And we feel it may have a better chance to pass.

Concerning solar energy generate, solar electricity generation, Bill 175, we feel that it's important to provide a property tax incentive to encourage experimentation for various ways to implement a technology that already exists in theory and the breakthroughs have been made. It's a matter of finding the best way to apply them to electricity generation. I think there are people here who can elaborate on that further. We support the idea of studying standards that have touched on this bill, the people who set the standards for electric generation should be concerned not only with performance levels of these systems, but also with the way they will interface with Utility Companies. I think that there is a possibility here, that the utilities will be resisting the efforts of individuals to generate their own electricity and this should be safe-guarded against.

The Regulatory Intervention provided for in this bill, should not be desi should be designed to enhance rather than hinder diversification of our options. We support life-cycle analysis of buildings. Bills 178 and 5264. Long term planning for overall energy efficiency is life in terms of economic . . . in terms of economic and in terms of energy conservation. Of the cost of doing the life cycle analysis, is relatively minimal compared to fuel savings. Even if you should need to hire a special architects that're not already in the department of Public Works. You would still recover in terms of fuel, say a double life of your building.

In doing a life cycle analysis, it's important to consider that you are increasing the option of being able to use the heating system that is convertible, whereas if you're just

MS. SMITH continues: And we urge that for your consideration. Thank you very much. Are there any questions?

REP. PALMER: I just wanted to ask you, what sales tax exemption bill do you favor?

MS. SMITH: I never testified before, so I'm a little bit shaky.
(laughter)

REP. BALDUCCI: Don't let it bother you.

MS. SMITH: Alright, Number 176 and 5266. Thank you.

REP. PALMER: Thank you.

SEN. O'LEARY: Betsy Proudfit?

BETSY WOODWARD PROUDFIT: My name is Betsy Woodward Proudfit, and I'm with Atmospheric Services and in the last 15 years, have been in the Energy Area and arena. And I'm speaking here today as a citizen.

I will try to limit myself only to points that haven't been brought up before regarding Bill 175; I'm happy to see this ... it's proposed that there be a tax exemption for solar energy electricity generating systems, I would prefer that this were not limited to just residential, of course, this would mean it would have to go back to the original bill to correct it, what might seem a very minor, at this time, but later on I'm sure the question is going to come up.

This is line 29-30, which utilizes solar energy to produce energy consumption at that location...for the last 2 years, there has been a device called a Gemini Converter and this is, if someone has ... a wind generator or portable tank cells, which is putting out variable voltage, DC, that, this convertor is between the, say the wind generator and the wall, and is tied in with the grid and at that house, you are then able to get 115 volts AC, 60 cycle.

If, that wind generator is producing more at the site, then ...is being consumed at the site, it will then go back into the grid. In other words, we are now producing electricity that is not being used on the site. And, there's, only one of these in Connecticut, that I know of, in Bloomfield, and these have been approved by about a dozen utilities across the country. It could be a small point, but that one word could, somehow be changed.

This whole thing ofdefinitions, it does worry me, some, that with thesales tax bills, this is 176, 5266, 5440 in particular, 176 where we're limiting

MS. PROUDFIT continues: this to solar heating and cooling, the same thing is going to happen next year, that's happened with 175, where we're going to have to be discussing a new bill that's going to include solar electric system.

(5440)
And, I feel that because of that, 544 is better, ummmm, there are number of other State Bills that I would like to just very quickly read the definition of what is referred to in say, alternative energy device. This is from the Idaho, their house bill 468. Adjent to this section, alternative energy device, means any system or mechanism or series of mechanism using solar radiation, wind, geothermal, we don't have to worry about in Connecticut, or wood, or wood products, primarily to provide heating, to provide cooling, to produce electric power or any combination, thereof, alternative energy devices includes a fluid to air heat pump, operating on a fluid reservoir heated by solar radiation or just here on the resource. A built-in fireplace does not qualify as an energy saving device, unless it is equipped with a metal heat exchanger that will deliver heated air to a substantial portion of the residence and is equipped with control doors and regulated draft. It was considerably broader, if they can do it in Idaho, I think we should be able to do it in Connecticut.

There's another, I could read a similar one here from Kansas, but I've got a suitcase, full of, all the solar bills that you want.

Let me get in order here too. We'll then go on to No. 177, it's already been stated by Commissioner Brooks, that he sees no reason to limit this to \$700. I certainly agree. The Fire Glow Trio, which is in the Finance Committee doesn't have that limit.

The bills on life cycle cost analysis, 176, 5264. I might be limiting some bills, because the other ones that were added, I was only able to get ahold of, a half hour before the meeting here. So, I will not be including the numbers.

With the life cycle cost analysis, I consider, or one of the primary bills that should be passed in the State of Connecticut, and I would be very very happy to see that the Legislature would be considering the taxpayer, 10 or 20 years from now, and not only be concerned with, say, today's budget. There is a beautiful case of a school that was constructed about a half dozen years ago, where they goofed on the air-conditioning system, and it was too cold, so they then put in electric resistance heating around the air conditioning ducts, so it wouldn't be quite as cold. I'm sure that our friends over in the other chair, even he would feel that this is a waste of energy.

REP. STOBBER: There's no bill that we have that's directed just for fuel cells and as a part this, is there? (inaudible - speaker is too far from mike.)

MR. LOTKER: There is legislation, I'm not sure whether it came up at this committee meeting. I'm a novice on your legislative process, you'll have to forgive me. There are bills that I've seen 5374 and 657 to name only two. I'm not sure they're subject to this hearing to provide credits for alternative energy systems and for business and industrial research and development. And those are certainly, in my opinion, apply to fuel cells.

REP. STOBBER: What were those numbers Mike?

MR. LOTKER: I'm sorry. 5374 and 657.

SEN. O'LEARY: Thank you. Ron Eigenbrod.

RON EIGENBROD: My name is Ron Eigenbrod and I'm a private citizen. I also am involved in the solar energy marketing and installation. I'd like to make a few brief comments concerning the bills that deal primarily with solar energy, 5651, 5266, 5440, 7620.and Senate Bills 175,176,179 and 657.

These all, I'd like to go on record as being very much in favor of all, ways that we can increase the effectiveness of our energy assumptions, energy consumptions. And I think all the bills considered here today reflect this type of concern. Much of what I was going to say already has been covered. Connecticut does not have our own indigenous power supply. We import everything.

We don't have oil wells, we don't expect Oklahoma to close her factories so that we can keep our schools open here. This hard winter has made it very clear that there is keen competition for fuel both between sectors of the country and between area sectors of our economy. The demand obviously exceeds the supply and this just goes to show the future trend in prices.

This morning, the Connecticut Energy Association has pointed out that there could well be a gasoline crisis, a gasoline shortage due to our inability to stockpile fuel oil, which can be converted to gasoline. Our reserves are depleted and we're not building them up at a time when we should be. A lot of people are throwing around various figures. Every report has yet to come up with some kind of a figure. Most of them tend to be on the conservative side. I would like to think that in maybe 5 or 10 years, that about 30% of the total energy used in residential, commercial and industrial uses, could be solar. This is a big step. I don't think it's by any means beyond our capabilities. A 30% savings based on our 1975 usage, as been reported could mean 25 trillion BTU's available from the residential alone to other areas of our economy. Such savings could mean that

MR. EIGENBROD continues: in the event of another Arab oil embargo, or another hard winter, we might not have to close our school doors, our factory gates. The PUCA is making the right move in banning natural gas for non-essential purposes. This was in this morning's paper. But, the stick is much more effective, when used in conjunction with the carrot. The state should mandate such energy saving legislation, as lower speed limits and thermostats. But they should also at the same time, encourage those who want to save our dwindling supply of fossil fuels.

The bills being considered here today, do just that. Every BTU your neighbor saves, with a solar hot water heater, is another BTU available for our children's uninterrupted education and that our State's workers may not have to collect unemployment, just because of a couple of cold months.

As noted before, transportation is the largest user of energy in the State. Almost 40% of our yearly demand in Connecticut goes to meet transportation energy costs. This is one area where solar energy perhaps is not yet ready, the technology is not quite there to economically permit. However, if a 30% savings is obtained in residential, commercial and industrial sectors, the combined savings would be like 45% of our transportation usage.

What solar energy has the ability to do, is take our energy, precious energy resources, which are limited, various sources quote between 20 and 31 years left for oil. And between 150 to 200 so, for coal, depending upon how fast we use them. But, they are limited. For Connecticut, the increased solar energy,....use of solar energy has the potential to create an entirely new industry. Based on generating localized power for our State. There are already several Connecticut firms who have national prominence in the solar energy field. Basically in the construction of solar energy hardware. We have the technology now, and probably as much or more than any other place in the country. This new industry will provide more productive jobs and generate more income for the State and it is unique in that it will not take jobs away from the already established heating contractors and suppliers. Most also, assistance presently on the market are boosters or assists conventional fossil fuel by a back up system. Many heating contractors are presently offering solar systems as an option. A solar system, a solar booster, can easily pay itself back over the years. Times vary between how much actually is being put into a, what percentage of the total heating role is desired to be met by solar energy.

There are several phases obviously to this new industry. Right now, there are many people involved in the designing, engineering and of the various types of collectors. There

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MR. EIGENBROD continues: are also manufacturing companies now in Connecticut making these collectors. Distribution sales, installation, the list goes on, the maintenance, repairs over the years. These bills that are being considered here, are not asking the State to move any money from the current cash roll or Governor Grasso's budget.

These bills will not cost the State more money. When looked at over a period of 3 to 10 years, they will save a tremendous amount. By that, I mean what they do ask, is that the State no exact an extra tax from the citizens who want to conserve our dwindling supply of energy. We donot ... that we do not penalize those who are actually investing in the present as well as in Connecticut's future economy.

Something which hasn't been mentioned yet today, is that 30% of all the world's energy that is produced is not used, by that I mean, there's a difference between the total amount of energy produced in the world, and the total amount of energy consumed in the world. And that is about 30%. And this energy all goes to getting that energy produced to where it is consumed. And it's ... be it come from a tanker, or a loss in transmission lines, it's all basically not productive. It does create some jobs, but it's basically not productive.

Solar energy on the other hand, is used right where it's located. There is no loss here. It's all positive. I will comment directly to these bills, ummm, in all of them, in general, is that I should hope that they are not going to be restrictive, to merely residential heating, when the applications for solar energy are quite significant, cooling, there is also the question of swimming pools being heated by solar energy. I think a tax benefit here would be equally beneficial. Agricultural crop "time", industrial hot water uses, there are many other advantages here.

I urge you to consider these hard, because solar energy is really something we're going to be looking at much more strongly in the future. Right now, we're still in fossil fired, warm buildings. But, were our gas supply cut off and we'd had the "whole mess" in McDonald's down the street, we'd be looking with a much different attitude. Thank you.

REP. BALDUCCI: Ron, Does the committee have any questions? You mentioned 30%, what do you have specifically, is there anything about transmission lines? I'm wondering where you got that figure.

MR. EIGENBROD: Where I got that figure? As far as energy lost? I got that figure from a source I don't have with me, but I could easily supply to this commission.

REP. BALDUCCI: I'd like to see it, if you could get it.

MR. EIGENBROD: Sure.

REP. BALDUCCI: That's an awful lot of energy lost.

MR. EIGENBROD: Yes. I think it's actually, that was a conservative estimate of it.

REP. BALDUCCI: Transmission lines, I understand that, but what else are you including in that energy loss?

MR. EIGENBROD: Well, it was a world figure given, and I believe it would also include, for example, pipe lines, construction of pipelines, moving fuel through tankers, trucks,...

REP. BALDUCCI: Why were they added to there?

MR. EIGENBROD: Because....it's....what we want is the fuel. We don't necessarily want to pay for it coming, from somewhere else.

REP. BALDUCCI: (inaudible - speaker too far away from mike.)

MR. EIGENBROD: No, it did not. Basically, it just gave the total amount of energy produced and the total amount consumed.

REP. BALDUCCI: Did it happen to have the loss to the United States?

MR. EIGENBROD: No, this was a world figure.

REP. STOBER: Ah, I remember the report that the Energy...Lynn Brooks put it out for example, vast pages of that rather thick book that he put out on that, it has to be (inaudible - noise made near mike.) of loss, that, in total energy generated and what they actually use at the time and it's above the.. I think in his book it's in the neighborhood of 46% that we lose.

REP. GEJDENSON: I think that...I think that takes in for instance, when you're trucking a truck load of gasolene, the gas that the truck will use...

MR. EIGENBROD: Right. This would all be energy used in just moving your energy.

REP. GEJDENSON: Thank you.

REP. BALDUCCI: (inaudible - papers are being rustled in front of mike.)

PAUL ERHARTIC: It's been a long afternoon, and my name is Paul Erhartic and I represent Suntain Incorporated and I also am an instructor at the University of Connecticut Experimental College on Solar Energy, and I've been working in the field for 4½ years now. I don't want to be too repetitive, so

MR. ERHARTIC continues: And seeing this point of view, \$49 will not get these people to improve their insulation.

REP. GEJDENSON: I wasn't aware...but are you aware of particular towns that do increase the tax assessment to those people who have added insulation?

MR. ERHARTIC: I'm not ... I couldn't answer that.

REP. GEJDENSON: I'm not sure it exists. Maybe it's correct, but to my knowledge, I don't remember assessor taking into consideration their in fact, I would appreciate it if you could get that information to this committee, I assume the rest of the committee would be interested, if you could find examples of towns....just as you've had a value to the house....

MR. ERHARTIC: O.K. Well, I guess that would be one bill I wanted to talk to bring up about. I would like to say that all the other bills, from....175, 176, 178, 179, 657 ... I feel that they are needed and the ...recommending improvements by most of the people here....I agree with.

That was pretty much what I wanted to say.

REP. ROBERTSON: You specifically said to create the incentives so that people could properly insulate their houses. You used the term, cost of property tax exemption, umm and prolonging Sam's point, I do not believe that there's (inaudible - machine malfunction)

MR. ERHARTIC: (Inaudible - machine malfunction)

REP. ROBERTSON: That's what I thought you meant, and if we were to suggest a property tax credit over a 15 year period, would you assume that the town absorb that loss or that the State reimburse the town for that loss.

MR. ERHARTIC: Perhaps the town will absorb it, I feel it wouldn't be a loss as far as (inaudible - machine malfunction)

REP. STOBBER: Whereas in going from 3½" of insulation in the walls, to 6" in the walls, and again from say, 6" in the ceiling, to 12" in the ceiling, in now constr...in presently constructed buildings, whether they be residents or otherwise, there's almost an impracticality from the standpoint of labor costs that goes to....make this thing doing...make this up....because none of your settings, none of your construction will permit this kind of insulation. So you almost have to put a new siding on, you've got to do something here....

MR. ERHARTIC: Are you talking about new buildings?

MS. GEERKEN continues: And that is, that we certainly support the sales tax exemption for insulation materials including that House Bill 177, including the idea that the limit, the dollar limit should be removed.

Also, we endorse the concept of life-cycle cost analysis for state-funded building projects for the reasons that have been previously mentioned and we hope that the committee will work on a bill and come up with a bill which would pro...that we've also discussed here today, to provide an incentive to conserve gasolene and finally, the bill that was brought up by the solar industry people. The idea of extending a tax credit to promote both research and development of the solar industry in Connecticut, we would heartily support. SB 178

I do have copies, official copies, which I will leave with you. Thank you.

SEN. O'LEARY: Any questions? Helen Sullivan?

UNIDENTIFIED SPEAKER: She left a written statement with me.

SEN. O'LEARY: Norman Rutterman.....

LIZ CAPLAN: Oh, he is from the commission of the architect and he has left transcripts for the committee members and he is sending in a written statement of his position. I'll have that here tomorrow.

SEN. O'LEARY: Patricia Leahy.....Judy Mauzaka....

UNIDENTIFIED SPEAKER: I have a statement here...if someone wants to read it.

REP. BALDUCCI: Well, (inaudible - speaker too far from mike.)

SEN. O'LEARY: James Sandler,.....Jack Wiren.....
Not like the old days, is it Sam. (laughter)

REP. GEJDENSON: I'm gonna get out earlier...

JACK WIREN: My name is Jack Wiren, I'm a citizen, I'm also a physicist, an engineer and an inventor. I have a question about, I haven't had a chance to read the bill that went before, number 175 and 179. But I have a question with the term solar energy in line 30.

REP. BALDUCCI: Could you tell us what bill you're talking about?

MR. WIREN: This is proposed bill 175, line 30. "which utilizes solar energy to produce energy for consumption." I think it means if it's not clarified, or if it's not defined as to what solar energy means it needs to be, so this would include things such as wind-electric generators, waterwheels,

MR. WIREN continues: water-turbines. I don't understand the...bill 179, it says to delete the terms heating and cooling and windmills. You know, I'm at a loss because I haven't...

REP. GEJDENSON: I think that's a mistake because I talked to Dick, I may be wrong, Is that Senator Schneller's bill? I think that his proper words

SEN. O'LEARY: It makes sense when taken together with 175...

REP. GEJDENSON: 175....

MR. WIREN: Well, I have them both here, I don't....You see, it only makes sense if solar energy, the term solar energy in line 30 means all of these different if that includes water turbines and wind electric generators. So that was my only question there.

And I had one statement to make and that is, that I resent any kind of inference in advertising and also, articles that have recently appeared in folk magazines, and also in this past Sunday's Courant, that describe people who have built a so-called, solar heated home, and then when you get through finished reading the article, you get the overall impression that well, solar energy is in now, but only sort-of. Don't count on it for more than like 50% of your heating costs, and it's only really available to the affluent, the person who really has the bucks to shell out for it. That's bunk!

I can tell you from personal knowledge, and personal experience that there are low cost solar collectors and solar heaters. Some of them that don't look anything like the typical solar collector, these are not on the market now, they, they do exist however. It only is going to take the type of impetus that these sort of bills will provide, to have these devices on the market.

They're inexpensive to the point where I can build any one of you a house, that will cost exactly the same as the house that you built, or live in now. Exactly the same. No additional expense and where the entire heating would be provided by solar energy. And would not....the entire heating system

REP. GEJDENSON: Thank you Jack. I'm starting building in April.... (laughter) I need your company.....(laughter)

MR. WIREN: Oh, you're serious! (laughter)

REP. GEJDENSON: I'm constantly serious. (laughter)

REP. BALDUCCI: (inaudible - speaker too far from mike). because what we'd like to have isfactual material. you understand...like a quote here, the Representative mentioned before, that they have possibilities of having 6 or 7 or 8 ... for some of these cells. You know, as

REP. BALDUCCI continues: compared to the largest amount of of some of these things. That's because, we'd really be (inaudible - speaker's voice is lost in background and distorted at many points due to his being too far from the mike.)

MR. WIREN: I want to assure the people, you people on the committee that this type of a solar collector, this type of solar heating is here right now. It's here in the sense that the designs are there. Umm. And in the sense that I could go out and build one tomorrow. But, I'm not in the construction business. I'm not in the solar heating business and maybe I should be, because I'm fairly aware of the type of solar collectors are available. What there is out there and I see these articles like that buy in Groton, Long Point, or wherever it was....who had these very conventional looking collectors on the roof of his house and it provided him with a backup system for his oil fired heater or whatever it was, you know. So that's deceptive.

I think the public....One of the big problems with solar energy..is that so much of that type of information is out there. I can name you any number of popular magazines that have run articles on solar energy recently, because this is a big thing now. And all these articles give the public the wrong message. They tell them it's expensive, it's impractical. It's something for the affluent.

REP. GEJDENSON: What kind of a system are you talking about. One that would take in 100% and could you explain to me what kind of a system...is it a hot water system?

MR. WIREN: Space heating and hot water. See I'm working with a small group of engineers and inventors who are fooling around with these ideas, you might say.

Now that sounds pretty shaky perhaps, and we're, you know, we're not in the business, but I'm trying to think of some credential, something I could really, some way of

Well, I think that's all I had to say.

REP. BALDUCCI: You had mentioned this before, O.K. and this is I suppose an informal question to you. If it's there, in other words, if it's out there, if it works on paper, you know, sometimes it works on paper but in practicality it doesn't, I've learned that. I invented something once, and believe me, it"sank" (laughter). But, the thing is, if it's there, I think that's a very important thing to know, especially, we know that it's out there, and one of the thing's we've been driving at all day long and it's been at some of the other hearings that you know, (inaudible - speaker seems to be talking away from mike.)

Commissioner Brooks said today in Australia, 2 guys decided that they can come up with the idea that they have solar energy use that will work both in cloudy weather and sunny

REP. BALDUCCI continues: weather. At a very inexpensive cost. I know that he said.....you know, (inaudible - someone coughed into microphone.).

If it's there, you know what I'm saying is, we could use it now. We've got low income housing, we've got regular housing, we've got buildings that could use that kind of heat.....

MR. WIREN: Well, myself and my associates are involved in other projects right now.

REP. BALDUCCI: Oh, this is your group, you're talking about.

MR. WIREN: Yes, I'm talking about personally. We are involved in other ventures right now, but we would like to be in this....we would like to get into this some day and it's been a period of years that we've been working on a series of designs and ... I'm not really at liberty to say, you know, draw you a picture and say here it is. Because... you know, the rights to patent rights or whatever are not secured on some of these ideas. But, I want to make sure that people really understand that you've just got to take my word for it, I assume.....(laughter)

REP. BALDUCCI: We're on the brink of it, anyway, of being cheaper, anyway.....

MR. WIREN: Absolutely, that's the point I wanted to make.

REP. BALDUCCI: We don't have to wait 'till 1995....away from it...

MR. WIREN: You see a lot of the conventional solar collectors on the market today involve high priced materials. Copper, lot's of copper tubing, all kinds of stuff like this. That's ridiculous. These people are not thinking in cost effective terms. And not only that, a lot of the thinking that's gone into solar collectors on the market today, is kind of a piece meal thing. We'll have 1 unit to do this, and 1 unit to do that, you know, all these separate units and whereas, they're not looking at it from a total system perspective. This is where the error is. And they're not thinking in terms of how cheap and what materials could we use, what design could be used to make this really cheap. And to make it integrated with a total system approach.

For retrofit units, for new housing units and for any kind of a hot water heating unit.

REP. LAVINE: With all due respect, I hear you say it, but I don't see anything in terms of documentation. And I would appreciate it if you would let this committee know where it could find some information on this. Because we have to make judgements. Substantive judgements for the state of Connecticut

REP. LAVINE continues: And we need something to base these judgments on. Now, without that, I mean I'm afraid, I wouldn't take your word for it. And I would like to, but I would really ask you if you have some information, to submit it to the committee. Some sources, someplace where we can go to get further information. If you could only do that, but that is what I think is necessary for a Legislative Committee, to try to make some judgements in this area.

REP. ROBERTSON: I....just on David's point....I would say that most of the substance is being done by most of the substance which you and I would seek is being done by private industry under a very careful watch of security because of pending patents and so on. I think any major change in the present solar system, is being handled, certainly by private industry, some under Federal Grants and some under private grants, but again, I question whether they've information that I would like, much of that is being held very restrictive.

Just one case that I know of, where one president of the corporation, 18 months ago claimed that his company would be able to supply 80% of all your electrical and heating needs within 6 months. And they just wanted to caution, that the reason their stock had gone down 40% is the fact that he predicted it 18 months ago. But, they're working on it.....(laughter)

UNIDENTIFIED SPEAKER: (inaudible - speaker too far from microphone.)
laughter.

SEN. O'LEARY: Any other questions? Thank you.

MR. WIREN: Thank you very much.

REP. BALDUCCI: Thank you.

SEN. O'LEARY: Elvin Trumbull....

ELVIN TRUMBULL: I'm Elvin Trumbull, president of Solar Heating Systems Corporation and Resourse Technology. I guess, like Ted Knight, I have white hair and I'm also an anchor man.

I was very interested in this last gentleman, 'cause the things that he said, we are actually doing. I appeared before this committee last year, I think on one of the tax exemption bills, and I mentioned at that time, there was millions of dollars; we were working with "countries" that had millions of dollars of solar energy equipment. Within about 2 or 3 weeks at the outside, our company together with a builder, who'll be announcing installation, and we're one of the first one in, of the largest group of privately financed, independent homes, solar heated, in the Eastern seaboard. These homes will sell in the area of \$50,000 apiece. The systems we're putting in, will cost the customer \$5,000; they'll amortize the cost of this

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MARTHA COHEN: (Con't) We do believe that it is necessary to clarify this act with the passage of 5832, which would specifically indicate the exemption of applies to the newly installed systems on existing buildings as well as to systems that were installed along with newly constructed buildings. We feel that is a good clarification and something, we do believe that systems should be given a property tax exemption if they are installed in existing homes. I think more and more of this will be the case as once the problems with retrofitting are straightened out, then more and more people will be retrofitting their homes of some sort probably domestic hot water.

We also support S.B. 175 which is also coming from regulated activities, this would, we believe is a logical extension of P.A. 409 in that it gives property tax exemptions to solar electrical generating systems, which would include disposal tape cells once they are improved, windmills and water wheels.

We think that the future potential of this kind of system the electrical generating system could be substantial and that it really is imperative that solar electricity be strongly encouraged now so that it can be developed in the next two decades.

We believe however, that this measure should be amended in order for the state to demonstrate it's full commitment to encouraging solar energy. We believe that the state should pass this bill as a blanket amendment applying automatically to all the towns not as one similar to 409 in terms of each town authorizing it's own exemptions. The reasons for this partly come from our survey of the towns on the solar heating and cooling system. We believe that the towns through this kind of amendment are one by one doing their part toward helping develop solar energy and encouraging energy conservation and the development of solar energy. We think now that the state should take its' part and give a blanket exemption for the encouragement of solar electricity.

We feel that this, authorizing each town to give an electrical generating system property tax may slow down the needed progress in developing this kind of energy in Connecticut and may indicate to the towns an unwillingness to take full responsibility at the state level for supporting these energy alternatives. During our survey a couple of towns said to us, why should we pass this if the state feels it's so important why didn't the state just do it. And I think this is one of the reasons that we do support a blanket exemption of the property tax exemption for electrical generating systems.

Consumer acceptance of solar as a viable energy source instead of a science fiction myth is another essential step as the center of science to the public interest indicated. And we believe that this is one of the main reasons that the general assembly should establish a solar energy authority within the department

MARTHA COHEN: (Con't) of planning and energy policy. We believe that this kind of authority would publicly establish a clearing house for accurate and valid information on alternative energy, and it would also give people a place to contact to find on how to put into practice their sort of vague ideas of solar energy. I know that CCAG has gotten several calls from citizens around the state who want to know how do I do it, how do I put in my solar stuff, where do I buy it, who can contact and I think if they knew and it was publicized that there is a solar energy authority that they would at least really have some direction and feeling that solar energy was closer to them than it now is, then they feel it now is.

A solar energy authority is also needed to counter act other kinds of major barriers to solar energy, particularly the lack of substantive government funding. I want to quote from the bill that in its capacity to quote aid in the acquisition of technical and financial assistance from the federal government unquote, the authority would be able to help boost the now marginal but potentially growing solar industries that is in Connecticut now. I think there are several representatives here following me from the solar industry who can testify to that.

A comment however on section C of 6052, which is the solar energy authority in that since the bills on property tax and sales tax and corporate tax breaks are already before you I don't think section C is needed in 6052 and I don't feel that, CCAG doesn't feel that there, that it will damage the effective the solar energy authority to delete that section.

We feel that the tax incentive should be passed as soon as possible and believe that the general assembly should pass them this year instead of waiting for a solar energy authority to do that in the next two years.

Just in summary we feel very strongly that these tax incentives are important for Connecticut and are important to show the states willingness to set a priority on energy conservation and alternative energy development and production, actually mass production. Thank you.

REPRESENTATIVE LAVINE: I'd like to ask you specifically in your telephone poll of the towns that you conducted, the towns which now have an activeness ordinance, do they give you any indication of what the revenues loss was?

MARTHA COHEN: No they didn't, it wasn't a specific question and I believe that only one town defeated it on the basis of loss of revenue.

REPRESENTATIVE LAVINE: O.K. Did, is my understanding correct, it's a little difficult to really read 175 more than one way, but it's

JOEL GORDES: Basically, by the state definitions of alternative energy it excludes anything that uses a fossil type for fuel, therefore Pratt and Whitney could not sneak something under the door on us, it only take in non-fossil fuels, renewable fuels as such therefore that could not happen. By this very definition which the state has adopted.

SENATOR BECK: And If in the definition of alternatives or supplements Pratt and Whitney were studying the stratis phere is it possible that it could allocate that study of the stratis phere instead of to flight to energy concepts, in other words, how broad do you get in your definition of research, do you have definition worked out?

JOEL GORDES: No name, this would have, it's specific enough that is says it has to be something that would replace a conventional energy resource such as petroleum, products natural gas, and electricity.

SENATOR BECK: Well, what I'm suggesting is that if they study the stratis phere, for heat conduction for instance, which would deal with a plane, and they argued that they were really studying solar energy who would make the judgement about that? Would we have to add staff to audit their research definitions?

JOEL GORDES: Basically I believe that just under these conditions here it would exclude such, I don't know it might come up and if we had a solar power authority maybe they would be the ones to handle it. Maybe it would be someone within the Department of Planning and Energy Policy. We don't have a mechanism as such, I believe that we are in need of it.

SENATOR BECK: So we'd have to have people outside of the tax department making some.....

JOEL GORDES: That's a possibility. I would also like to leave with the committee some of the studies showing what the potential of the industries will be.

REPRESENTATIVE LAVINE: Thank you Robert Griffin. Could I just make a request here. I want everybody to have the opportunity to say what is on their minds, but we do have a number of people and just with that thought in mind would you try to be as...to the bills as possible. Thank you. Robert Griffin.

ROBERT GRIFFIN: Good morning my name is Robert Griffin, I'm a resident of Litchfield, and while I had some brief prepared remarks to discuss on bill 175, I wish to use these remarks in front of me just as a launching pad and be specific in getting into why I believe wind energy devices referred to in, on numerous occasion this morning as wind devices or windmill. A windmill is designed to grind corn or pump water it is more specific to use the term, a wind roter, or some such term.

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RICK SCHWOLSKY: (Con't) was installed in 1945, in this state. I just don't see why it should be limited to a period of time.

REPRESENTATIVE LAVINE: O.K.

RICK SCHWOLSKY: Now, on proposed bill number 6052, which refers to the down around line 27, the first two, the solar authority for the state. I think basically it's a good idea, there is expertise in this state, that the state, within the industry that the state can really draw from and use legislators, and legislators can gain expertise from and learn. But the wording here is a little ancient, line 27, by collecting and analysing information on solar energy and alternate energy technology, there is so much duplication of effort, in this field throughout the country, even within this state, that to at this date set up an energy authority and say o.k. now, we want you to go out and start researching the state of the art and keep us informed.

They're going to be going back over stuff, that it's just going to be always a lag period between what's happening really in the industry and what their information is. It's a duplication of effort and I don't, I think that basically it's a good idea but I don't think that that should be part of their range, the scope of the authority.

Finally, just a thought occurs to me because I notice that wording plays such a big part in these proposed bills. On proposed bill number 5929, concerning elimination of sales tax on insulation, line 19, states, sales tax and use tax the sale of all types of insulation, insulating material. Well, I think that that should be more clearly defined, because you've got alot of people with horses that would say they were insulating their houses with shavings and they'd be getting away with alot of money. Thank you.

REPRESENTATIVE LAVINE: Any questions. Doctor Joseph Pandolfo.

JOSEPH PANDOLFO: I'm Joseph Pandolfo, resident in Burlin and I work for the Center for the Environment and Man here in Hartford.

I would like just to bring some information before the committee's attention. The bills I am specifically interested in are the 5266, and two senate bills 479 and 475, I think those are the numbers right?

These bills if I understand them right are the only ones that are directly concerned with incentive by giving a break to the buyer of a solar system. And they are concerned with both the solar and wind generating, wind driven electricity generating system.

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JOSEPH PANDOLFO: (Con't) I'm confining myself to this area because I think it's the only area, we didn't have the copies when we came in but I thought these were.....

REPRESENTATIVE LAVINE: Like 266 is here but I don't, do you see any others?

SENATOR BECK: Ya, 175.

JOSEPH PANDOLFO: Our work has consisted mainly of research supported by the energy research and development agency and the national science foundation on solar energy costs. We do some consulting work for architects, engineers, and some of the solar manufacturers in Connecticut and from out of state actually. This brings us a little different view point from what the committee just has seen with regard to solar energy costing, present solar energy industry costs and the costing of solar energy systems and I will try here, to just address myself so that those points that have not been covered or haven't been covered sufficiently in my opinion, by the previous speakers.

Commissioner Brooks gave a very good summary of why the committee should be concerned with incentives, there are three possible positions for the users of solar energy that they could be in and he outlined them very well. One is they are not going to be interested in solar energy because it doesn't do them any good anyway.

Two is there's just on the verge of being interested because it might save them some money or might be competitive with some alternative. And three is it would be a wind fall because they'd be going out but saving them a lot of money anyway and any incentive the state gives them would be a windfall. And that is a nice description of the situation. The problem that the committee might face, I think faces, that the commissioner Brooks didn't bring out however, is that all three types of customers exist in this state right now. The committee's attention has been focused on the single family home, on hot water systems for a single family home. In our opinion based on our work, the largest growing area in the near future, in the next periods to be covered by these bills, 5 to 10 now, to ten years out from now, other than being commercial and industrial users, of energy.

REPRESENTATIVE LAVINE: What do you base that on?

JOSEPH PANDOLFO: Some of the analysis that we have done, for example we find the given the same hardware, same type of collector, same type of storage tank, the technology is the same, you now serve a small family house, come up with a system of the kind you have had described to you over and over again. \$8,000 maybe covering 50% of the space heating. Or just the hot water for a family \$2,000 may be covering about half of what they need in a year.

JOSEPH PANDOLFO: (Con't) We've done analysis for two commercial bottle washing machines, in one plant. That would use as much energy.... That would use as much energy as thirty of these houses in a year. And that are actively interested in saving their energy costs, given the same hardware the same technology, solar energy for that bottling plant is cheaper than fuel oil. For the house the same hardware provides solar energy that might be expensive if it's the really wrong kind of house as electricity. So that we've done analysis for office, residential and gymnasium complexes.

We're talking systems now that would cost \$150, 200, \$300,000 dollars. Same hardware, same technology they will get solar energy at a cost per unit of energy per million BTU, cheaper than actual gas. If their in the right place.

REPRESENTATIVE LAVINE: What about schools?

JOSEPH PANDOLFO: Schools, are probably not the ideal user. We also teach solar energy courses at the Hartford Graduate Center, for my students I identify the ideal user as somebody who needs heat only when the sun is out, somebody who's paying for very expensive other source in out case it would be electricity and somebody who uses larger amounts of heat.

REPRESENTATIVE LAVINE: Why would that not be a school?

JOSEPH PANDOLFO: Well, the schools unfortunately the sun is out it provides most of the energy in the summer time, and they need it in the winter time, however, a bottling plant who is very fortunate because there business goes up in the summer time, get more bottles to wash in the summer time. So they get their solar energy alot cheaper, with the same hardware say then a school would.

A resort motel or hotel or resort area that is a summer resort area like the shore, capecod, etc., will end up being a better a more potential customer for solar energy and might even fall into Commissioner Brooks who's going to get a windfall if you write an incentive bill because he's already going to buy, or should be anyway, only nobodies sold him on it yet.

So I wouldn't mind difference from that viewpoint is that at this stage and I'm making an assumption, that the committee feels that solar energy is something that is worth encouraging in the interest of the citizens of the state, older citizens of the state, and I think that's obvious, I won't repeat it here, two ways one is we have, probably getting up to being one of the leaders in the commercial solar energy industry itself. We have more manufacturers of solar equipment in the state. The other thing of course is that we pay more for our energy anyway, so all our citizens benefit even if only some of our citizens start to use other sources of energy.

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REPRESENTATIVE LAVINE: Why is that?

JOSEPH PANDOLFO: Well, because if I get a solar energy system I won't be trying to out bid you for fuel oil three years from now.

REPRESENTATIVE LAVINE: Well, yes except the utilities would tell us that the economy's scale is such that.....

JOSEPH PANDOLFO: Oh, yes, there is another assumption I made here and I will, you know I'm talking about present costs, the present costs I'm talking about is where solar energy will serve only as a fuel saver. I'm not out to do away with utilities, neither is energy research development agency. Solar energy in the next five to ten years, as an important resource will be used only as a fuel saver, there are very few customers that won't have to buy some energy somewhere else. From a utility from the gas suppliers, fuel oil suppliers and I started, that went without saying. There are very few customers that will be out looking for, or could actually buy solar energy at a rate that would save them money, on the basis that that's all they were going to use. That's another, again I wish to assure the committee, some of the people have said it over and over again, there is nothing wrong however, there still is a large benefit to the state, if all of our car washes, laundrys, laundry mats, hotels, were equiped with a solar system that would save 30 or 40% of what they need, this would be a great benefit to the state and worth the committee's attention here. And the community, the.....

REPRESENTATIVE LAVINE: Do you have any idea how much benefit it would be?

JOSEPH PANDOLFO: I took the two bottle washers, I don't know how many bottling plants there are in this state, and how many use this kind of wash material. I extract, the numbers would have to be bigger then the numbers that have been quoted for the single family residents. They'd have to be, it would roughly break with your utilities records on how much or Commissioner Brooks' department records on how much of, what percentage are fuel oil, what percentage are natural gas, ends up in those commercial and industrial places. And I think that would be 30 or 40%.

The incentives should not be or I would tend, my view point, would tend to say the incentives are necessary in this state, would benefit the citizens of this state because if we take all the users of energy, there are a very small number right now, from which any incentive is a windfall. As I said they should be using solar or wind anyway. Because they are very fortunately set up so that they need the energy when they can get it cheapest. There is another larger portion, including myself as a homeowner, for whom solar energy, at least in the next five years, stands no chance of being interesting to me. I have natural gas and

JOSEPH PANDOLFO: (Con't) there is no way I can get a solar energy system that's going to give me my heat cheaper than natural gas, clump in the middle of people who right now, this year and next year, the year after users, who can definitely, a lot of them can by buying this solar energy system will get their energy cheaper the electricity and they pay for it as electric heat.

A few, and a few big ones, mostly in the commercial, big energy users, in the commercial and industrial market, that can get solar energy that will be competitive with fuel oil. The incentive and the incentive your going to set up is then really going to slide more and more people into that bottom group. And as time goes on and the prices of the competitive fuels go up they'll just be more and more people going into the bottom group.

I think it should be the intent of the committee right now, to get the group to be as large as we can make it without being unjust. My own individual reactions to some of the question that have been asked, are the property tax and on the sales tax, the person who goes out to buy a solar system, whether he's operating a plant where he needs a lot of hot water or a lot of hot air, or whether he's a home owner, is buying 20 or 30 years worth of fuel in on shot, his neighbor who buys his fuel a day at a time or a month at a time, does not get charged property taxes on the fuel in his tank or the gas going through his lines or the electricity coming in through the cables. The person who's buying a solar system is taking all his money essentially for his fuel budget for the next 20 or 30 years and putting it into what looks like hardware, admittedly, and it's hard to explain to people that what he is really buying is 20 or 30 years worth of fuel oil, or natural gas, or electricity. We do not, our communities do not charge me a property tax on what's sitting in my oil tank, they charge me a property tax on the tank itself but not the contents, they don't charge me a property tax on the gas that comes through the line, coming in or the electricity that comes through. So just from an equity view point if I were a solar energy buyer, whether I was business or a residence I would be up here making an argument, I'm not. I'm not buying solar energy, we don't sell the equipment, solar energy equipment, and as I said I came with the intention to bring this kind of different angle and maybe some information that the committee didn't consider.

REPRESENTATIVE LAVINE: Are there any questions?

REPRESENTATIVE TABER: I would like to just ask a question with regard to you saying that buying the system can be taxed and you feel that there should be a tax break given for it.

JOSEPH PANDOLFO: Well, I say by eliminating the sales tax and the property tax your treating the solar energy the same way you treat oil, gas, or electricity.

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REPRESENTATIVE TABER: Well, would you assume that the system would have no value. In ten years or 15 years that it will decrease in value, have no value what so ever.

JOSEPH PANDOLFO: No, I'm saying that that system in ten years will have as much value as a ten year supply of fuel oil.

REPRESENTATIVE TABER: YOU believe it would have no depreciation value what so ever.

JOSEPH PANDOLFO: Well, what ever the fuel oil is worth in ten years.

REPRESENTATIVE TABER: Well, what about the state of the art of putting it in? Buying it, is it going to have value, or what, \$8,000 dollar value would be worth \$10,000 in ten years?

JOSEPH PANDOLFO: If it goes like everything else maybe \$15,000.

REPRESENTATIVE TABER: Then it does have real property value?

JOSEPH PANDOLFO: Yes, but, Yes, I agree it's hard to lets look at both sides of it. I started with the side your looking at, this is a piece of property that is worth, something, I however, would answer to anybody that said, you know, I'm paying taxes and your not paying taxes on that piece of property, that I would start, lobbying after it before this committee, myself to start that communities charge property tax on the energy value of conventional fuel and to charge sales tax on conventional fuel. Because this is basically what your doing with regard to solar. Now, it's alright to do this, o.k. so that if you want to encourage the use of conventional fuel and discourage this use of solar, the state legislature has a perfect right to keep this disincentive in price.

REPRESENTATIVE LAVINE: I wonder if you would leave you name and.....

JOSEPH PANDOLFO: Yes, I'll also try to, I didn't prepare a statement because I again did not want to repeat everything the commissioner Brooks said and everything everybody else said, but.....

REPRESENTATIVE TABER: Are you still over at the.....

JOSEPH PANDOLFO: ?

REPRESENTATIVE LAVINE: Thank you, Penelope Heavilin. Cheryl Champ.

JACK WIREN: My name is Jack Wiren, I'm from Storrs Connecticut and a concerned citizen, I have a statement that MS. Champ left with me to be read on her behalf. Her name is Cherly Champ and she does a radio program out of the University of Connecticut WHUS under the name of Mother S. Lightning. And she's an LPN nurse and a mother, from Storrs.

WIREN: I think that particularly with alternative technology which your going to have, what were seeing right now is a situation where the small groups of people who are working out of their basements, garages, and places like that are making large break throughs they are making important break throughs because they haven't been throttled and channeled into certain directions of thinking by the establishment that over sees the research and development that takes place in large corporations.

So If you want alternative, technology to bergoin and make a significant impact on the job situation, the environmental situation and the cost of fuel, then your going to have to promote small persons and not the large corporation. Large corporations are already funded and subsidized as much as they need to be and they hire people who are university trained, I'm not putting down university education, in mass, but I'm saying that university engineering training programs do have a tendency to teach people to think in certain standard patterns and you find that the true genius and invention from a person who can free themselves from that and unfortunately large corporations tend to stifle that kind of creativity. Thank you.

PRESENTATIVE WRIGHT: Thank you. Judith Mauzaka.

WITH MAUZAKA: I'm Judith Mauzake representing Greater Hartford PACE, People Action for Clean Energy. Speaking in support of H.B. 5266, H.B. 5832, H.B. 5929, H.B. 5030, H.B. 6052, S.B. 175 and S.B. 1432.

These bills pertain to solar and non-fossil fuel energy as well as insulating materials. The citizens of Connecticut are growing more and more interested in energy.....specifically as they relate to the pocket book of the individual ratepayer. Perhaps in response to the weather induced energy crisis this winter a greater emphasis is being placed upon the investigation of alternate forms of energy with solar the clear for runner. Newspapers statewide are featuring articles about solar energy and the pioneers who are adopting it's principles to their own structures.

The solar division of the Federal Energy Research and Development Administration know longer actively discloses it's toll free consumer number, since it is receiving between 500 and 600 calls a day. PACE II can report a surging interest in solar energy among the public. The first alternate energy house tour sponsored by the Farmington Valley Chapter of PACE was held on March 5th.

Featured were four residential homes, two with solar devices all with excellant insulation and the Grist Mill with a hydroelectric system. Almost 600 people attended the tour. The recent article in the Hartford Courant stated that solar applications to the home have been implimented since the 1930's yet the solar industry for this area is still in the infancy stage.

JUDITH MAUZAKA: (Con't) But why should Connecticut be content with the toddler when the technology for solar energy is available to us right now, and is constantly being perfected. Indeed solar energy is becoming cost competitive with other traditional method of heating, especially electric. In light of the soring prices of gas, oil, and uranium, the renewable energy source of solar is clearly in the running.

There are increasing signs that the cost of solar equipment will go down in the future, not up. Much research is being done in the private sector and universities. Even the mobile type of solar energy corporation is now working on a process which will produce flat silicone crystal plates quickly. Parabolic reflectors are being developed which will let one crystal do the work of eight. Solar energy is no longer a novalty. In short it seems we are keeping an adolescent not an infant in diapers.

Solar energy and alternate energy in general goes hand in hand with proper insulation. It would be foolhearty to invest in a new and as yet costly energy system only to heat the great outdoors with. Yet without adequate insulation this is exactly what is being done. Regardless of the energy source, in many state buildings, apartment houses, and residential homes. Tax incentives for insulation will hopefully encourage many people to make their buildings energy efficient. It is definatly a necessary first step. In the future the utilities may become involved with granting low interest loans for insulation and thermo-static control devices, a move only if this process will not discriminate against those who have already insulated their homes.

These measures, if combined with the large cycle cost analysis of state buildings and a wide spread practice of construction of energy saving homes and apartments will put Connecticut well on the way towards effective energy conservation. After all conser- vation itself can be an effective source of energy, since up to 50% of our energy results in waste heat the recovery of it can, it has been predicted cost less then the creation of new energy and as an important by product can create badly needed jobs.

Right now other heating systems are not taxed, though it may be true that electrical heating is the cheapest energy source at the outset, look at it's soring operational costs. Look at the rising cost of fossil fuels, the cost of uranium and expensive nuclear power plant shut downs, then look at the operation- al costs of solar energy. As a car salesman on television claims you don't just pay to buy it you pay to run it. Thank you.

REPRESENTATIVE WRIGHT: Thank you, Patricia Leahy.

REPRESENTATIVE LAVINE: Do you want to leave your statement?

PATRICIA LEAHY: I am speaking as a private citizen interested in

PATRICIA LEAHY: (Con't) energy conservation and the development of alternative energy sources. My name is Patricia Leahy. I enthusiastically support these tax exemption bills, for energy, for alternative energy systems and insulating materials. These are days for soaring utility bills, and depletion of natural resources and it makes the time right for such legislation.

I'd like to quote the Environmental News, February 77 issue. The statement that President Carter made. "We must do more to find alternative energy sources, solar energy has already begun to provide us with new energy at little environmental cost and holds promise of far greater contribution in the future. Promising as it is solar energy research and development has received little attention or money. Excessive emphasis has been placed on the development of a common power and particularly the breeder reactor."

I feel these bills provide an excellent opportunity to create this misplaced sense of priority that President Carter speaks of. Solar energy systems are initially expensive to build and it takes approximately 5 to 15 years to pay for itself. This tax cut would be welcome incentives for consumers who are interested in taking advantage of this clean and plentiful energy source. After material and insulation costs are covered the money saved from the drastic reductions in monthly fuel bills and the ultimate energy savings surely seems to justify the loss to tax revenue that these bills necessitate. I hope that you agree. Thank you.

REPRESENTATIVE LAVINE: John Hibbard.

JOHN HIBBARD : I'm John E. Hibbard, I reside at 1072 Gilliard Street Hebron Connecticut and I'm employed as secretary and forester of the Connecticut Forest and Park Association. I want to speak briefly on some of the energy bills before the committee today, and while do not wish to detract from the presentation relative to solar and wind energy, I note that the bills do refer to non-fossil fuels and I believe that wood is a nonfossil fuel being that trees are great solar collectors of energy. In this interest I'm specifically referring to the tax exemptions that might be extended to include such supplemental sources of energy as combination wood and oil furnaces which are available and do offer a fairly efficient and quick way of conserving energy for the Connecticut consumer. Much has also been said about methanol as a substitute fuel and methanol has to be derived from something. And the greatest source of methanol in the United States is wood. And I think the committee should be aware that the state of Connecticut's former park and forest commission had vehicles that ran on methanol, during the second world war so it's not a new thing to the state.

There are devices, gentlemen in New Hampshire has a device which employs methanol and in heating such tax exemptions might imply

JOHN HIBBARD: (Con't) to small industries that might convert their steam boilers to using wood chips or some other fuel at what are probably lower costs, then energy or wind systems might be available at.

I happen to be one of the citizens who insulated, doubled my insulation back in the energy crisis and I think more people should do that for the energy saving alone. But if it does take a tax incentive to get them to do it, I think that's a step in the right direction. On you bills relating to motor vehicles, I would suggest that you expand that from just passenger vehicles to commercial vehicles, below the 6,000 lb. maximum gross vehicle weight which is what is commonly used by EPA and other in their requirements for anti-pollution devices, etc., so that perhaps that could be extended to commercial vehicles, less than 6,000 GVW.

This concludes my remarks and as I say if we're really talking about giving incentives for people to use non-fossil fuels that wood is indeed a non-fossil fuel, that's the way I look at it.

REPRESENTATIVE TABER: Did you say to include commercial vehicles?

JOHN HIBBARD: If your going to do something with motor vehicles, yes. Commercial up to 6,000 lbs. GVW, that would include pick ups, you know the description in this bill, is passenger carrying commercial vehicles, I don't know whether that included pick ups or not, and if you drive in the rural parts of the state there are as many pick ups on the road as there are automobiles.

REPRESENTATIVE LAVINE: How energy efficient in wood?

JOHN HIBBARD: The national Academy of Science has just published a recent report on all types of materials and wood actually stacks up higher than any, as regards the BTU's to convert it to something, get to a place to burn and that type of thing. A quart of wood, good dry hard wood is, has the energy equivalent of about 200 gallons of fuel oil and if you want to figure fuel oil at 60 at 50¢ a gallon, which I'm sure it will be by next fall, that's 100 dollars and you can buy a quart of wood for \$50 most anywhere.

REPRESENTATIVE LAVINE: Can you feed it into a furnace?

JOHN HIBBARD: You can feed it into a furnace, there are furnaces made both hot air and hot water that have two boilers that you can burn, you can burn wood in them much of the time, but you do have the capacity to supplement with oil.

REPRESENTATIVE LAVINE: Who feeds it in?

JOHN HIBBARD: Well, the home owner feeds it in, he has to be, that's the incentive to lower his fuel bill that he's getting paid for the time he's feeding.

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HIBBARD: (Con't) Many of these, you know, there has been, wood is heavily used as a fuel in Scandinavia and other parts of the world. Some of these things are fairly effecient, they only require feeding once a day and alot of these units particularly stoves, Scandinavian and other, manufacture are being imported because they are used in these countries, because fuel, other fossil fuels are so expensive that.....

SENTATIVE LAVINE: Do they have a particular problem with them at all?

HIBBARD: Not in my opinion, you know, wood is a clean burning fuel when you compare it to alot of other things, being used. I think any so called air pollution problem that could be associated with wood, is relatively easy to solve. A good, what these efficient stoves actually do is convert wood to gas anyway it's control combustion with very little oxygen entering and the wood is in the stove converted to a gas which burns, so that you don't have ashes coming out the chimmney so to speak. Thank you.

SENTATIVE LAVINE: Patricia Smith.

ICIA SMITH: My name is Patricia Smith, I'm the energy Chairperson of the League of Women Voters, I would like to share with you my idea on the energy bills that are before your committee, my testimony which was given to the Regulated Activties Committee will be forwarded to you as soon as I can get the typist to copy it for you pretty because my typing terrible as you will see.

I would like to support five of the proposed bills before this hearing. First of all, bill 7952, an ACT CONCERNING A GRADUATED SALES TAX ON MOTOR VEHICLES BASED ON GASOLINE CONSUMPTION.

We share the views of CCAG in this matter and I won't repeat the whole argument for you because you've heard it more the once this afternoon. Because essentially all transportation needs are met from petroleum resources, conservation in this use is of paramount importance. In Connecticut over 80% of the oil used is imported from foreign cources. In this area more then any other money saved from gasoline conservation goes directly to the Conn. economy rather then to OPEC's pockets. The League of Women Voters strongly supports this bill.

Concerning bill number 5929. AN ACT CONCERNING THE ELLIMINATION OF SALES TAX ON INSULATION. Which amends the statute 12-412 to include insulation materials.

Insulating residences is the most effective conservation measure available now in Connecticut. Residential heating and cooling represents 27% of the total energy requirements for the state. I refer you to the Energy Advisory Board Report for the exact