SUMMARY REPORT ON THE SOLAR CONSUMER
ASSURANCE NETWORK (SOLCAN) PROGRAM
PLANNING TASK IN THE SOUTHERN REGION

compiled by
Maud B. Browne

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March 15, 1981

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submitted to

Dr. Fredrick H. Morse, Director
Office of Solar Applications for Buildings
Conservation and Solar Energy
U.S. Department of Energy
under contract DE-AC02-79CS30166 ✓

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Foreward

This report describes the activities undertaken in the southern region in support of DOE's Solar Consumer Assurance Network (SOLCAN) Program Planning Task. Key personnel in SSEC's State Solar Support Project participated in these activities which included state solar consumer assurance assessments and pilot interactive SOLCAN meetings. Assistance in implementing the southern regional SOLCAN Program Planning Task was provided by Ms. Lynda Connor, Office of Solar Applications for Buildings, U.S. DOE; Dr. Allen DeCotiis, Assistant Professor of Political Science, Emory University; Mr. Francis P. Koster, and Dr. Giles P. Hopkins, Koster & Associates; Ms. Anne Eaden, Director, Tennessee Division on Consumer Affairs; Ms. Cheri Faust, Energy Fraud Unit, Georgia Office of Consumer Affairs; Mr. Ed Glenn, President, Horizon Enterprises, Inc. and President, Florida Solar Energy Industry Association; Ms. Evelyn Jackson, Alabama State Solar Contact; Mr. Wayne Robertson, Assistant to President, Sunflower Solar, Inc.; and Mr. Thatcher Walt, Consumer Affairs Officer, Jacksonville/Duval County.

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SUMMARY REPORT ON THE
SOLAR CONSUMER ASSURANCE NETWORK (SOLCAN) PROGRAM
PLANNING TASK IN THE SOUTHERN REGION

INTRODUCTION

The goal of the DOE-sponsored Solar Consumer Assurance Network (SOLCAN) Program Planning Task is to assist in the development, at the state and local levels, of consumer assurance approaches that will support the accelerated adoption and effective use of new products promoted by government incentives to consumers to meet our nation's energy needs. Appropriate solar consumer assurance approaches would involve the cooperation of industry, government and consumers to prevent market acceleration efforts from imposing undue burdens either on industry or on consumers.

The DOE SOLCAN program emphasized the role of states in solar consumer assurance because of existing state-level legal and regulatory authorities to deal with the problems of industry and consumers. Consequently, the SOLCAN Planning Task included state-conducted evaluations which were to be administered through the regional solar energy centers to help establish the best approach for each state's activities in the consumer assurance area.

The purpose of the state self-evaluation activity was to achieve effective communication and coordination among the various groups involved in solar consumer assurance. It was intended that the evaluations lead to a better understanding among all parties of how to achieve integrated consumer assurance programs in each state that are responsive to needs of consumers and industry under conditions of government incentives.

The state self-evaluations involved three objectives, as established by DOE:

- Identification and cataloging of functions, related resources, and roles pertaining to legal, regulatory, and administrative mechanisms which can provide consumer assurance in each state. Included will be mechanisms available through industry and private sector organizations as well as under traditional state and local government functions.
- Assessments of the effectiveness of these mechanisms in meeting the needs of consumers and industry when government attempts to accelerate the transition to use of renewable resources.
- Identification and description of alternative means for strengthening consumer and industry assurance in each state. Consideration will be given to innovative arrangements with industry groups and to use of mechanisms built into the Residential Conservation Service Program as well as to more conventional mechanisms.

To assist states in the self-evaluation process, DOE developed the SOLCAN Briefing Book which outlined the national SOLCAN effort, identified potential solar industry and consumer needs, and described existing state solar consumer assurance mechanisms.

SOLCAN PROGRAM PLANNING TASK IN THE SOUTHERN REGION

The DOE-sponsored SOLCAN Program Planning Task was administered by the Southern Solar Energy Center (SSEC) in the southern region, which includes: Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, Puerto Rico, South Carolina, Tennessee, Texas, Virgin Islands, Virginia, and West Virginia. The southern regional SOLCAN effort, which was designed to achieve the three objectives of the state self-evaluation activity, was conducted in three stages: state solar consumer protection assessment, six pilot state interactive SOLCAN meetings, and a report on the SOLCAN process and results.

State Solar Consumer Protection Assessment

The state solar consumer protection assessment was conducted to address the first objective of the state self-evaluations:

- Identification and cataloging of functions, related resources, and roles pertaining to legal, regulatory, and administrative mechanisms which can provide consumer assurance in each state. Included will be mechanisms available through industry and private sector organizations as well as under traditional state and local government functions.

The assessment consisted of a series of interviews conducted by the State Solar Contact, provided for under SSEC's State Solar Support Project, in the following jurisdictions: Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, Puerto Rico, South Carolina, Tennessee, Texas, Virginia, and West Virginia. The State Solar Support Project was selected as the most appropriate vehicle for the assessment since the Project's State Solar Contact serves as a solar resource for the state and facilitates state input to SSEC planning.

The parameters and focus of the assessment activity were developed with the assistance of a SOLCAN Technical Resource Group. Members of this group included:

Ms. Anne Eaden, Director, Tennessee Division on Consumer Affairs
Ms. Cheri Faust, Energy Fraud Unit, Georgia Office of Consumer Affairs
Mr. Ed Glenn, President, Horizon Enterprises, Inc. and President, Florida Solar Energy Industry Association
Ms. Evelyn Jackson, Alabama State Solar Contact
Mr. Wayne Robertson, Assistant to President, Sunflower Solar, Inc.
Mr. Thatcher Walt, Consumer Affairs Officer, Jacksonville/Duval County

The Technical Resource Group met in Atlanta on April 11, 1980, to discuss the following:

- assessment approaches (e.g., available data, interview techniques, etc.)

- agencies and authorities to be included in the assessment (e.g., state and local consumer protection agencies, public and private consumer groups, industry organizations, energy authorities, licensing boards, etc.)
- "standard" consumer protection system components (e.g., pre-purchase information services, complaint investigation, mediation and redress procedures, advertising monitoring and substantiation, industry self-regulation, etc.)
- solar consumer assurance mechanisms to be addressed in the assessment (e.g., equipment standards, installer certification, warranty requirements, warranty insurance programs, etc.)

Based on these discussions, a guide was developed by SSEC to assist State Solar Contacts in conducting the state level assessments (see Section A). Training in the SOLCAN project and use of the guide was provided for State Solar Contacts during the State Solar Support Project Quarterly Meeting on April 29, 1980. The state assessments were conducted during May and June of 1980.

The state solar consumer protection assessment was composed of the following components:

- the identification of applicable state legislation, including Fair Business Practices Acts, Business Opportunities Acts, Home Solicitation Sales Acts, legislation governing solar licensing, equipment standards, warranties, etc.
- identification of procedures developed to implement RCS consumer protection requirements, including listing and de-listing suppliers and contractors, post-installation inspection, consumer grievance procedures, and redress procedures.
- input from key agencies and groups involved in solar commercialization and consumer protection functions, including solar energy industry associations, individual solar dealers and installers, state energy offices, attorney generals' offices, consumer affairs agencies (where distinct from attorney generals' offices), trade licensing boards, better business bureaus, home builders associations, solar advocate groups, etc.

The third component of the assessment, input from key agencies and groups, was obtained through interviews which sought to discover:

- the number and resolution of reported solar consumer problems
- general solar consumer needs or potential problems with solar products or the solar industry
- existing consumer protection mechanisms which can prevent or resolve solar-related problems

- the adequacy of existing mechanisms
- means for addressing identified solar consumer needs, including consumer education, equipment standards and certification, contractor licensing, warranties, installer training programs, etc.

Information obtained from the state assessments was used to formulate a report which identified and cataloged functions, resources, and roles pertaining to legal, regulatory and administrative mechanisms available through states and local governments, industry, and other private sector organizations to provide consumer assurance for solar products in the southern region. This report, which was submitted to DOE on September 15, 1980, examined the following solar consumer assurance mechanisms in each state:

- information programs
- consumer protection and solar statutes
- licensing/certification
- codes and standards
- testing and product certification
- audits and inspections
- warranties
- consumer response systems
- training programs

A copy of the report on state solar consumer assurance mechanisms for selected states (the six pilot states which participated in the second stage of the SOLCAN Task) is included as Section B.

The responses to the interview questions concerning solar consumer problems, adequacy of existing mechanisms, and ways for addressing needs were as varied as the respondents and states involved in the assessment activity. Generally, there were not many solar complaints reported by consumers, and consequently, there was not widespread support for instituting additional major solar consumer assurance mechanisms. The types of potential solar consumer problems cited during the interviews included improper installations, cost of solar products, and lack of effective consumer information. Various means for addressing these problems were proposed, such as consumer education programs at point of purchase, installer testing, and solar licensing. As an example of the types of responses received, the assessment interviews for the state of Florida are incorporated as Section C.

In addition to providing the basic information which formed the framework for the second stage of the southern regional SOLCAN Task, the state solar consumer assurance assessments produced other beneficial results. Through the assessment activity, the State Solar Contact gained solar consumer assurance knowledge and established liaison with key agencies which have been productive in various state solar activities. These activities have involved responding to specific public inquiries as well as providing support information for state legislative initiatives.

State SOLCAN Meetings

The second stage of the southern regional SOLCAN Task involved convening meetings in pilot states to achieve, in an interactive mode, the second and third objectives of the state self-evaluation:

- Assessments of the effectiveness of consumer assurance mechanisms in meeting the needs of consumers and industry when government attempts to accelerate the transition to use of renewable resources.
- Identification and description of alternative means for strengthening consumer and industry assurance in each state. Consideration will be given to innovative arrangements with industry groups and to use of mechanisms built into the Residential Conservation Service Program as well as to more conventional mechanisms.

It was determined that the states which had the greatest potential for an active solar market would benefit the most by serving as pilot states for the interactive SOLCAN meetings. Consequently, SSEC conducted an analysis of various factors related to the solar domestic hot water market. These factors included the number of electric water heaters per state and the return on investment for solar water heaters versus electric heaters. Based on this analysis, the following six states were selected as pilot states for the second stage of the SOLCAN Task:

Florida
Georgia
North Carolina
South Carolina
Tennessee
Virginia

The six state meetings were held in January, 1981. Each state was the official host of the meeting, responsible for identifying and inviting participants. SSEC provided appropriate support materials to the State Solar Contact, including the DOE SOLCAN Briefing Book, list of existing state solar consumer assurance mechanisms, criteria for evaluating existing mechanisms, and meeting agenda. The SOLCAN Briefing Book was provided in bulk quantities for distribution in advance to meeting invitees. Moreover, SSEC engaged the services of a technical support contractor, Koster and Associates, to assist meeting participants in discussing solar consumer assurance needs and devising recommendations for strengthening state capabilities.

Representation of diverse perspectives on solar consumer assurance issues was considered key to the success of the meetings. Consequently, states were requested to invite representatives of:

- state energy office (including RCS and EES coordinators)
- state consumer affairs agency
- state attorney general's office
- solar industry (contractors, manufacturers, dealers, trade associations)

- solar advocacy groups
- consumer associations
- consumer complaint services

At every meeting, the state representatives included those individuals and groups which were important to the solar consumer assurance mechanisms in their respective states. A list of SOLCAN meeting participants for each state meeting is included as Section D. It is important to note that the focus of meeting discussions was established by the participants and, consequently, related directly to their interests and authorities.

The State SOLCAN Meeting process moved through four phases:

- (1) identifying participants and the resources they brought to the discussion;
- (2) reviewing existing legislation and programs;
- (3) identifying and discussing solar consumer assurance needs and opportunities; and
- (4) designating responsibility for future action.

All four phases were essential to the success of the SOLCAN Meeting effort. The first two phases ensured that all participants had an understanding of the various aspects of the situation in the state. This understanding was necessary to prevent restricted discussions and narrow perspectives. The third phase was the core of the meetings during which participants assessed the adequacy of existing state mechanisms and identified steps for strengthening capabilities. The fourth phase was perhaps the most important and often the most difficult phase of the meeting process. This phase translated discussion into action, which is the first step to achieving actual improvements.

Section E includes the list of incentives, consumer assurance mechanisms, and solar programs which were reviewed during the meeting (Phase 2) and a summary of the opportunities for cooperation and action which were identified (Phases 3 and 4). In general, the needs and opportunities discussed varied among the state meetings; however, all discussions focused on how to achieve integrated consumer assurance mechanisms in the state that are responsive to the needs of consumers and industry. In almost every instance, states sought to address needs within their existing resources. No role for DOE or other federal agency involvement in state consumer assurance mechanisms was recommended. Much of the discussion related to the Residential Conservation Service, since it constitutes a major government effort to accelerate the transition to renewable resources which will be implemented soon in most jurisdictions. Due to its complexity, RCS provided fertile ground for identifying needed consumer assurance mechanisms and coordination linkages. In most cases, actions proposed to assist solar consumer assurance mechanisms in the RCS program could readily apply to all solar products marketed in the state.

An additional beneficial impact of the meeting was the communication established among participants. This was the first opportunity that this diverse group had for meeting together. Based on participant feedback, future opportunities for communication and coordination are likely to result.

Report on Process and Results

This report constitutes the report on the SOLCAN process and results in the southern region to be submitted to DOE. The results of the SOLCAN state self-evaluations in all four regions are to be integrated by DOE as part of the national SOLCAN effort for submission to the Federal Interagency Task Working Group on Standards and Consumer Assurance of the Solar Energy Subcommittee. This Working Group was established to provide for cooperation among appropriate federal agencies to:

- assure a responsible, coordinated federal approach to providing solar consumer assurance and
- reduce the occurrence of unnecessary, duplicative, or contradictory regulation of the solar market.

The Working Group will review options and recommend any needed federal legislative, administrative or budgetary action.

Additionally, SSEC will develop a detailed description of and a guide for the SOLCAN process. This guide along with SOLCAN support materials will be provided to all states in the southern region. In this manner the results and impact of the SOLCAN Task will be broadened through replication by other states, as deemed appropriate.

SECTION A
SOLAR CONSUMER PROTECTION
STATE ASSESSMENT GUIDE

SOLAR CONSUMER PROTECTION STATE ASSESSMENT GUIDE

SOUTHERN SOLAR ENERGY CENTER

Preface

An essential task in the commercialization of solar energy is building consumer confidence in solar products and the solar industry. Effective means for providing adequate consumer protection which do not deter innovation or overly restrict the developing solar industry must be ensured. The purpose of the Solar Consumer Protection Assessment Project is to assess the effectiveness of existing state level consumer protection systems relative to their applicability to solar consumer protection. The assessment will identify state solar consumer protection needs and resources and solicit input on strategies for meeting identified needs.

The Solar Consumer Protection State Assessment Guide was developed to assist State Solar Contacts in conducting the assessment in their respective jurisdictions. The Guide is the result of input assistance from many sources, including extensive interaction with Ms. Lynda Connor, United States Department of Energy; an informal telephone poll of state and local consumer protection agencies conducted by SSEC staff in January, 1980; advisory assistance from the Technical Resource Group which included Ms. Anne Eaden, Director, Tennessee Division of Consumer Affairs; Ms. Cheri Faust, Energy Fraud Unit, Georgia Office of Consumer Affairs; Mr. Ed Glenn, President, Horizon Enterprises, Inc.; Ms. Evelyn Jackson, Alabama State Solar Contact; Mr. Wayne Robertson, Assistant to the President, Sunflower, Inc. and former Georgia State Solar Contact and Mr. Thatcher Walt, Consumer Affairs Officer, Jacksonville/Duval County Division of Consumer Affairs; Dr. Allen DeCotiis, Assistant Professor of Political Science, Emory University; and the combined efforts of members of the staff of SSEC.

It is intended that the Guide provide general direction for the state assessment activity. Since the assessment process must be flexible to allow for individual state variations, the Guide will be revised, as appropriate, based on actual field experience. An assessment analysis will be produced based on the results of the state level assessments. The analysis will include a synopsis of each assessment, noting state specific resources and needs, and an analysis of key solar consumer protection issues, such as warranties, licensing and standards. This information will be used in a comprehensive approach to accelerate the successful commercialization of solar energy.

Maud B. Browne
Project Coordinator

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Solar Consumer Protection

State Assessment Guide

Introduction

The purpose of the Solar Consumer Protection Assessment Project is to document the legislation and survey the public and private agencies and businesses which are or may be involved in the consumer protection process with regards to solar energy in the Southern region. The Southern region includes Alabama, Arkansas, Delaware, the District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, Puerto Rico, South Carolina, Tennessee, Texas, Virgin Islands, Virginia and West Virginia.

Under the direction of the Southern Solar Energy Center (SSEC), the State Solar Contacts (SSC's) will perform the assessment in their respective jurisdiction by employing the methodology presented in this Guide. Generally, the SSC's will be responsible for conducting legislative research and interviews in order to assess the perceived problems with solar energy products and businesses and how the various existing consumer protection mechanisms may or do provide prevention and/or resolution of these consumer problems in each jurisdiction. The information provided through this effort will assist the acceleration of the commercialization of solar energy through the analysis of ways to build consumer confidence in the solar industry. The cumulative assessment analysis will serve this purpose by identifying needs and resources of the state consumer protection process as it applies to the solar industry.

Each State Solar Contact will conduct the assessment in his or her jurisdiction during May and June, 1980, in accordance with the specific tasks defined in this Guide. Specifically, the assessment includes performing the following tasks: researching the scope and nature of consumer protection legislation; interviewing public agency representatives; interviewing private agency representatives; interviewing solar energy association and business representatives; substantiating each interview on a report form and a summary form; assessing the state plan for implementing the Residential Conservation Service (RCS) consumer protection requirements; and providing a summary of the findings within each interview category.

The three interview categories each have a distinct role in the consumer protection field. Public agencies are being interviewed because they are the legal mechanism in the protection process. Private agencies often provide a consumer education function and are not directly involved in the state administrative process (e.g. the Better Business Bureau). Members of the solar energy association and private solar business representatives are being interviewed because they also serve an implementation function in the consumer protection process and have distinct understandings of and attitudes toward consumer protection. As such, each category of interviews offers unique information on the consumer protection process in the state, which is necessary for a comprehensive assessment.

A general understanding of the nature and components of the typical consumer protection process appears below.

Education/Information
(services to prevent
problems)

Functions may be served
by the same agency/org.

While this is a typical system, the purpose of this assessment is to determine the specific laws, agencies and mechanism which exist in each state. This information will not necessarily result in change of any system but is only an attempt to investigate how the commercialization of solar energy is or could be impacted by consumer protection. This perspective should be communicated to all respondents (especially industry representatives) so that they will understand that the research is geared toward a positive rather than negative attitude with respect to solar energy.

Interviews should require approximately thirty minutes each to conduct. When the assessment is complete in your jurisdiction, you are to forward all necessary forms and information to Maud Browne at the Southern Solar Energy Center. Any questions which arise may be directed to Ms. Browne (404)458-8765, who will be available to provide technical assistance to SSCs during the assessment activity.

The particular tasks and instructions for reporting results are documented below. Please follow the directions carefully and be sure to attempt to limit your interviews to the specifics of solar energy and the consumer protection process.

TASK 1 - LEGISLATION RESEARCH

Task 1: Documentation of Consumer Protection Laws

A. Purpose

Each SSC is to obtain and review a copy of the consumer protection legislation in his or her jurisdiction. Beyond obtaining a copy of the law, the SSC will identify the laws, their scope and interest, the powers granted, the primary agency(ies) involved in the administration of the law (lead agencies) and the enforcement mechanism set down in the law. Much of this information should be available through the Consumer Protection Agency or the Attorney General's Office. Form A is provided for the documentation of each law.

B. Examples of Legislation to be Identified and Researched

The following examples of legislation are provided to give the SSC an idea of the types of laws to be researched. The SSC should not consider the list exhaustive and should include all other relevant laws that can be identified. The lead (or primary) agencies will not always be the same as those stated below. These are provided only as examples to assist the SSC in obtaining information.

1. "Little FTC Act" - Most states have such laws. While they are not all identified as "Little FTC Acts", they serve a similar purpose: to protect consumer rights. They are called "Little FTC Acts" because they are modeled after Federal Trade Commission Regulations. Some powers often granted in such laws are: granting consumers the right to legal action; injunction power; and investigation and enforcement power to lead agencies. Consumer Protection Agencies and/or the Attorney General's Office are often the lead agencies.
2. Fair Business Practices Act
These laws are often identified as "Little FTC Acts". However, in some jurisdictions they are distinct and more comprehensive to the protection of consumers and prevention of fraudulent business activities. Consumer Protection Agencies and Attorney General's Offices are identified as possible lead agencies.
3. Home Solicitation Sales Acts
These laws protect the consumer from "pressure" sales out of the company's place of business (e.g. the home). Many such laws include a "Three Day Cancellation" provision which allows the consumer to void contracts within a specified time period when the contract is not signed in the place of business. Lead agencies vary, but the Consumer Protection Agencies should be aware of who enforces such laws.
4. Franchising Laws
These laws often protect the consumer from fraudulent or "fly by night" franchises that may affect the consumer. They may be called a "business opportunities" act. The Attorney General's Office is often the lead enforcement agency.

5. Credit Regulations

Credit Regulations often have implication for consumer protection in reference to cost, mortgages as collateral and possible foreclosure. The SSC should identify any such regulations that may affect consumer protection of solar energy products (since the cost of such products often involves credit). While no lead agency is identified, the Attorney General's Office should provide a source of information.

6. Solar Licensing Legislation

The SSC should research who is licensed to install solar equipment and under what legislation or regulation this is done. There may be a separate solar license, but solar is often included in another licensing process, such as plumbers. In some cases no license may be required for installing solar in the state. Also, the SSC should note if the legislation or regulation provides mechanisms for "pulling" licenses and describe this process and note whether licensed businesses are listed and delisted. A State Licensing Board could provide such information.

7. Warranty Laws

The Federal Magnuson-Moss Act provides for specification of warranties. Identify the agency which is involved in its enforcement. Most often, this will be the Attorney General's Office. A "warranty" involves the assurance that a product does what it was described to do and the assurance that it will last for a specified period of time. The SSC should identify any jurisdictional laws pertaining to warranties on solar energy products and what agencies enforce such laws.

8. Zoning Laws

The SSC should identify any state laws pertaining to residential or industrial zoning which make reference to solar energy. If local or county laws are identified during the course of interviews, please substantiate them on Form A. If the jurisdiction has a Zoning Board, they will be of informational assistance.

9. Consumer Protection Laws

Any laws specified as having a consumer protection purpose must be substantiated. Lead agencies are Consumer Protection Agencies.

TASK 2 - PUBLIC AGENCY INTERVIEWS

Task 2: Public Agency Representatives: Identification and Interviews

A. Identification of Public Agencies to be Interviewed

A representative of each of the following agencies will be interviewed by the SSC in each jurisdictional area unless no such agency exists:

- The Attorney General's Office
- Consumer Protection Agency (where distinct from Attorney General's Office)
- State Energy Office
- Trade Licensing Board

Beyond the above agencies, the SSC should interview a representative of any agency who the SSC knows or is identified through previous interviews as an integral part of the consumer protection process as it may apply to solar energy.* Examples of other agencies which may have to be interviewed to get a comprehensive picture of consumer protection mechanisms as they may apply to solar energy are:

- Solar Energy Centers
- Law Enforcement Agencies
- Consumer Information Agencies
- Code Enforcement Agencies
- Consumer Advocate Agencies
- Community Services Agencies
- Public Utility Commission

The representative of the agency to be interviewed should be identified by the SSC in discussion with the agency. The representative should be involved in consumer protection as it applies or may apply to solar energy. For example, if the Consumer Protection Agency has an energy expert, that is the individual that the SSC would interview.

*Through the course of an interview, if the interviewee can adequately define the role of an agency not listed above but which is important, the SSC need not interview that identified agency, but must substantiate its importance.

B. Interview Situation, Questions and Reporting of Responses

Interview Technique

The interview of agency representatives should be conducted in an informal manner. While the responses will be reported, the SSC should make no attempt to lead or inhibit original responses. The purpose of the interview should be stated as: to obtain the necessary information to assess the current consumer protection mechanisms in the jurisdiction as they may apply to the solar industry and suggest ways of improving these mechanisms, if necessary. These guidelines apply to all interviews (public and private agencies, and industry) which will be performed.

Issues to be discussed with Public Agency Representatives

The SSC will solicit the respondent's opinions in reference to the following issues pertaining to consumer protection in the solar energy area. Worksheet #1 is provided for your use during the interview to ensure all issues are covered. Information from Worksheet #1 is to be transcribed on Form B.

1. The number of solar consumer complaints reported within the past year by type of complaint (e.g., equipment failure, improper installation, false advertising or energy savings claims, franchising problems, etc.). Indicate how complaints have been resolved and what agencies/organizations were involved in the resolution.
2. General consumer needs or potential problems with solar products or the solar industry that affect consumers.
3. Ascertain whether solar consumer needs/problems differ from the needs/problems relating to other home improvement/construction industries. If so, describe how they differ.
4. Existing consumer protection mechanisms used to prevent solar related problems and the agencies/organizations that perform this function.
5. Existing consumer protection mechanisms used to resolve solar related problems. Identify agencies/organizations that perform this function, including those involved in referring complaints, receiving complaints, investigating complaints, and/or mediating complaints.
6. Technical resources which are (would be) employed in investigation of solar consumer complaints.
7. Form of legal redress which is available to the consumer if problems remain unresolved.
8. If existing mechanisms are deemed inadequate, ways in which the existing consumer protection process could or should be altered in order to prevent or deal with solar problems more effectively. Also, discuss possible legislative needs. Areas of discussion may include:
 - consumer education/information;
 - mandatory equipment standards and certification;
 - solar contractor licensing;
 - warranties;
 - Federally funded warranty insurance program;
 - installer training programs;
 - changes or additions to existing Federal legislation and regulation, including RCS, Tax Credits, Solar Development Bank, etc., regarding warranties, standards, etc.

9. Overall assessment of the existing mechanisms which address identified needs and the agencies/organizations which perform this function (to be reported on Form C).

TASK 3 - PRIVATE AGENCY INTERVIEWS

Task 3: Private Agency Representative: Identification and Interviews

A. Identification of Private Agencies to be Interviewed

Representatives of the following private organizations are to be contacted for interviews (where they are present):

- Solar Energy Coalition
- Any state-wide consumer advocate groups
- Better Business Bureau

Again, if the SSC identifies any other private agencies or organizations, they are to include them in their interview schedule.

B. Interview Procedures

Interview Technique

Interviewing techniques for private agency representative are to follow the same guidelines identified under public agencies.

Issues to be discussed with Private Agency Representatives

Issues to be discussed will be the same as those for public agencies. Worksheet 1 is provided for your use while conducting the interview, and Forms B and C are provided for reporting the results.

TASK 4 - SOLAR INDUSTRY INTERVIEWS

Task 4: Solar Industry Representatives: Identification and Interviews

A. Identification of Solar Energy Industry Representatives

Each SSC is to identify and contact one appropriate member of every solar energy industry association to be interviewed. The SSC is also to contact two individual solar energy business persons to be interviewed. These individuals may be identified through previous interviews or business listings, but are not to be the same person interviewed as an Association representative. The individual businesses to be interviewed should include both a solar installer and solar dealer.

B. Interview of Solar Industry Representatives

The SSC will make an interview appointment to discuss consumer protection with each representative and ascertain the representative's opinion on the following issues. Worksheet 2 is provided for your use during the interview to ensure all issues are covered. Information from Worksheet 2 is to be transcribed on Form D.

1. Major consumer problems with solar products and businesses.
2. Existing consumer protection which address these problems and their effectiveness. Mechanisms discussed should include the following issues: role of consumer education and who provides it; warranty programs and which types are most effective; licensing mechanisms and who performs such services; possible listing and delisting procedures and who performs such functions; and construction inspections.
3. The role of consumer protection in the marketing of solar energy products, including how it should be done (help or hindrance).
4. Mechanisms known to provide information to the consumer about solar energy products (including what agencies and/or organizations that perform such functions).
5. Mechanisms known to resolve consumer complaints and what agencies/organizations would perform this function, including those involved in referring and receiving complaints, investigating complaints, and/or mediating complaints.
6. Form of legal redress known to be available to the consumer if problems remain unresolved.
7. If existing mechanisms are deemed inadequate, ways in which the existing consumer protection process could or should be altered in order to prevent or deal with solar problems more effectively. Also, discuss possible legislative needs. Areas of discussion may include:
 - consumer education/information;
 - mandatory equipment standards and certification;
 - solar contractor licensing;
 - warranties;

- Federally funded warranty insurance program;
- installer training programs;
- changes or additions to existing Federal legislation and regulation, including RCS, Tax Credits, Solar Development Bank, etc., regarding warranties, standards, etc.

8. Overall assessment of the existing mechanisms which address identified needs and the agencies/organizations which perform this function (to be reported on Form C).

Task 5: Summary of Assessment Results - Summary Report

Eash SSC will follow the format of Form "C" and fill in a summary of responses in each of the three interview categories. That is, one form will be for public agency respondents, one for private agencies and one for industry representatives. The summary report should include, in addition to Form C., a brief narrative highlighting each category of interviews (public, private, and industry interviews) of responses with what the SSC considers as important points which were brought up.

TASK 6 - RCS ASSESSMENT

Task 6: Assessment of State Plan for Implementing the RCS Program

Each SSC is to include the State proposal for implementing the RCS consumer protection requirements. RCS consumer protection requirements include:

- list of suppliers, contractors, and lenders (456.312);
- post-installation inspection (456.313);
- qualification procedures for auditors, installers and inspectors (456.314)
- complaint processing procedures (456.315);
- warranties (456.312)

This task can be accomplished by attaching a copy of the applicable portion of the RCS plan or by describing the procedures by which the RCS lead agency proposes to implement the RCS consumer protection requirements.

Instructions for Reporting Forms

- Form A - In the appropriate space define and describe (in detail) the piece of legislation. In the space provided, identify the lead agency(ies).
- Form B - For each agency or organization, state the major points brought up by the interviewee and (where appropriate) identify agencies. When ranking the problems (item 2) please number them. Where more than one agency is identified, inquire which is (are) most important. Indicate that or those agencies as the "Lead" agency(ies).
- Form C - For interviews and the summary report, SSC's are to list problems, mechanisms and implementing agency(ies) by rank under the appropriate category.
- Form D - For each industry interview, Form D should be filled out for the issue discussion areas.

Jurisdiction _____

SSC Name _____

Interview Date _____

Respondent _____

Agency or Organization _____

SCPA Form A
Consumer Protection Laws
Report Form

1. Title and Legal Citation of Legislation _____

2. Purpose and Intent of Law

3. Powers Enacted under Law

4. Agencies Involved in Administering Law

5. Enforcement Powers

Jurisdiction _____

SSC Name _____

Interview Date _____

Respondent _____

Agency/Organization _____

SCAPA Form B
Public and Private Agency
Response Form

1. State the number and type of solar consumer complaints reported within the past year. Describe how complaints were resolved and indicate agencies/organizations which were involved in the resolution.

2. Define and rank major consumer problems with solar energy.

3. If solar problems are viewed as different from other home improvement/construction industry problems, describe how they differ.

4. Description of existing prevention mechanisms.

Agencies/Organizations involved: Lead
 Other

5. Complaint referral mechanism description.

Agencies/Organizations involved: Lead
 Other

6. Complaint Reception Mechanism Description

Agencies/Organizations involved: Lead
 Other

7. Investigation Mechanism Description

Agencies/Organizations involved: Lead
 Other

8. Mediation Mechanism Description

Agencies/Organizations involved: Lead
 Other

9. Technical resources employed in investigating solar consumer complaints.

10. Legal Redress Description

Agencies/Organizations involved: Lead
 Other

11. Improvement of Existing Protection Mechanisms (Describe)

Possible areas of needs:

- consumer education/information -
- mandatory equipment standards and certification -
- solar contractor licensing -
- warranties -
- Federally funded warranty insurance program -
- installer training programs -
- changes or additions to existing Federal legislation and regulations -

SSC name _____

Interview Group (check one)

_____ Public Agencies
_____ Private Agencies
_____ Solar Industry

Jurisdiction _____

Interview Date _____

Respondent _____

Agency/Org. _____

SCPA Form C
Summary Interview Form

Problems (by rank)

Consumer Protection
Mechanism which
prevents/resolves problem

Implementing
Agencies/Organizations

1.

2.

3.

4.

5.

6.

7.

8.

Jurisdiction _____

SSC Name _____

Interview Date _____

Respondent _____

Agency/Organization _____

SCPA Form D
Solar Industry
Response Form

1. Define and Rank Problems

2. Consumer protection mechanisms and effectiveness. (Describe)

3. Role of Consumer Protection in marketing products.

4. Information mechanisms. (Describe)

Agencies/Organizations involved:

5. Referral Mechanisms (Describe)

Agencies/Organizations involved:

6. Complaint Process (Describe)

Agencies/Organizations involved:

7. Investigation Process (Describe)

Agencies/Organizations involved:

8. Mediation Process (Describe)

Agencies/Organizations involved:

9. Form of Legal Redress Available (Describe):

Agencies/Organizations involved:

10. Improvement of Existing Protection Mechanism (Describe):

Possible areas of need:

- consumer education/information -
- mandatory equipment standards and certification -
- solar contractor licensing -
- warranties -
- Federally funded warranty insurance program -
- installer training programs -
- changes or additions to existing Federal legislation and regulation -

WORKSHEET 1

Issues to be Discussed with Public and Private Agency Representatives

1. The number of solar consumer complaints reported within the past year by type of complaint (e.g., equipment failure, improper installation, false advertising or energy savings claims, franchising problems, etc.). Indicate how complaints have been resolved and what agencies/organizations were involved in the resolution.

2. General consumer needs or potential problems with solar products or the solar industry that affect consumers.

3. Ascertain whether solar consumer needs/problems differ from the needs/problems relating to other home improvement/construction industries. If so, describe how they differ.

4. Existing consumer protection mechanisms used to prevent solar related problems and the agencies/organizations that perform this function.

Worksheet 1 - continued

5. Existing consumer protection mechanisms used to resolve solar related problems. Identify agencies/organizations that perform this function, including those involved in referring complaints, receiving complaints, investigating complaints, and/or mediating complaints.
6. Technical resources which are (would be) employed in investigating solar consumer complaints.
7. Form of legal redress which is available to the consumer if problems remain unresolved.
8. If existing mechanisms are deemed inadequate, ways in which the existing consumer protection process could or should be altered in order to prevent or deal with solar problems more effectively. Also, discuss possible legislative needs. Areas of discussion may include:
 - consumer education/information;
 - mandatory equipment standards and certification;
 - solar contractor licensing;
 - warranties;
 - Federally funded warranty insurance program;
 - installer training programs;
 - changes or additions to existing Federal legislation and regulation, including RCS, Tax Credits, Solar Development Bank, etc., regarding warranties, standards, etc.

WORKSHEET 2

Issues to be Discussed with Industry Representatives

1. Major consumer problems with solar products and businesses.
2. Existing consumer protection mechanisms which address these problems and their effectiveness. Mechanisms discussed should include the following issues: role of consumer education and who provides it; warranty programs and which types are the most effective; licensing mechanisms and who performs such services; possible listing and delisting procedures and who performs such functions; and construction inspections.
3. The role of consumer protection in the marketing of solar energy products, including how it should be done (help or hindrance).
4. Mechanisms known to provide information to the consumer about solar energy products (including what agencies and/or organizations perform such functions).

Worksheet 2 - continued

5. Mechanisms known to resolve consumer complaints and what agencies/ organizations would perform this function, including those involved in referring and receiving complaints, investigating complaints, and/or mediating complaints.

6. Form of legal redress known to be available to the consumer if problems remain unresolved.

7. If existing mechanisms are deemed inadequate, ways in which the existing consumer protection process could or should be altered in order to prevent or deal with solar problems more effectively. Also, discuss possible legislative needs. Areas of discussion may include:
 - consumer education/information
 - mandatory equipment standards and certification;
 - solar contractor licensing;
 - warranties;
 - Federally funded warranty insurance programs;
 - installer training programs;
 - changes or additions to existing Federal legislation and regulation, including RCS, Tax Credits, Solar Development Bank, etc., regarding warranties, standards, etc.

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Lead agency may be the Secretary of State, Department of Commerce,
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SECTION B
STATE SOLAR CONSUMER ASSURANCE
RESOURCES FOR SELECTED STATES

3. Licensing/Certification

Certifying and/or licensing contractors can ascertain and attest to the adequacy of contractor qualifications. Agencies which administer state contractor licensing programs are identified in this section. Also included are Master Record listing and delisting criteria for installers and suppliers set forth in the state RCS plan. These provisions, while not formal state licensing or certification programs, function to attest to the qualifications of installers and suppliers participating in the RCS program. The criteria incorporated in the RCS plan can be useful to states that are considering solar contractor licensing/certification requirements.

4. Codes and Standards

Residential codes have been implemented in many states to provide guidelines for the protection of the public health, safety and general welfare. State building codes, reference codes, energy codes and enforcement agencies are identified in this section.

Standards can establish consistency in consumer expectations of a product's quality and performance. Standards for renewable resource measures installed under the RCS program as well as existing state solar standards are identified in this section.

5. Testing and Product Certification

Product testing and certification programs identify selected characteristics of a product and attest that these characteristics exist through the use of evaluation techniques accepted by the certifying organizations. State programs for testing and certifying solar products are identified in this section.

6. Audits and Inspections

On-site energy audits can provide professional services and simplified approaches for assisting consumers in evaluating the feasibility of solar for their individual residence. The RCS program will be implemented through home energy audits which are described in this section.

On-site inspections serve to ensure that completed installations comply with applicable codes and standards. Inspection requirements for renewable resource measures provided for in the state RCS plans are described in this section. Residential code enforcement agencies are also noted by reference to Section 4.

7. Warranties

Warranties create and reinforce consumer expectations as to product and company reliability and establish responsibility for system failure. In this section, the warranty which must accompany solar installations under the RCS program is described, and state solar warranty legislation is cited.

8. Consumer Response Systems

Consumer response systems are means through which an individual consumer can seek resolution of a complaint against a seller or installer. Part A of this section lists organizations and agencies in the state which may implement or impact existing consumer response systems for solar products. These include public and private entities which may receive or refer consumer complaints, provide mediation/conciliation services, investigate complaints, or facilitate consumer redress.

Two key components of consumer response systems are mediation/conciliation services and legal redress. Mediation/conciliation provides consumers with an informal, easily accessible mechanism designed to resolve disputes, and thereby reduce the need for formal and often costly redress procedures. Legal redress provides for court resolution of disputes which could not be remedied by more informal complaint handling processes. Part B of this section describes procedures set forth in the state RCS plan which provides for conciliation and redress in response to consumer problems with measures installed under the RCS program. In most cases, these descriptions reflect procedures in place to address consumer problems arising from all transactions in the state as most states utilized existing systems and processes to develop RCS plans. In any event, the procedures described in this section are an example of state efforts to design and coordinate a consumer response system which can address solar consumer problems and are of particular importance in their identification of responsible agencies and governing state legislation and regulations.

9. Training Programs

Training programs are an effective mechanism for ensuring installer competence. This section lists training programs available in the states which can assist solar installers.

FLORIDA

1. Information Programs

Organization

Aztec Solar Company
P.O. Box 272
Maitland, Florida 32751

Clean Energy Research Institute
P.O. Box 248294
Coral Gables, Florida 33124

Environmental Information Center
Florida Conservation Foundation
935 Orange Avenue
Winter Park, Florida 32789

Florida Cooperative Extension Service
Institute of Food & Agricultural Sciences
University of Florida
Gainesville, Florida

Florida Solar Coalition
400 Cortland Avenue
Winter Park, Florida 32789
(305) 647-0467

Florida Solar Energy Center
300 State Road 401
Cape Canaveral, Florida 32920

Florida Solar Energy Industry Association
Plaza One Building
Suite 207
One West Camino Real
Boca Raton, Florida 33432
(305) 391-5455

Governor's Energy Office
Department of Administration
301 Bryant Building
Tallahassee, Florida 32304

Hour House
P.O. Box 40082
St. Petersburg, Florida 33743
(813) 546-6759

Services

newsletter

demonstration projects,
conferences, workshops,
publications

workshops, conferences,
newsletter

seminars, projects

workshops, publications,
travelling lecture
series, quarterly news-
letter/toll free hot
line 1-800-432-0575

conferences, workshops,
trade shows

demonstration projects,
workshops, literature
information bank, films

workshops, exhibits,
literature

Northeast Florida Solar Energy Association
947 Sorrento Road
Jacksonville, Florida 32207
(904) 399-8012

lectures, exhibits

Solar Energy Components, Inc.
441 Shearer Boulevard
Cocoa, Florida 32922
(305) 632-2880

demonstration projects,
workshops, publications

University of Florida Solar Energy
and Energy Conversion Laboratory
325 MFB
Gainesville, Florida 32611
(904) 392-0812

workshops, demonstration
projects

2. State Consumer Protection and Solar Statutes

A. Consumer Protection Statutes

Florida Statutes 501.201 - 501.213: Florida Deceptive and Unfair Trade Practices Law

The purpose of this law is to simplify, clarify, and modernize the law governing consumer sales practices and to protect consumers from suppliers who commit deceptive and unfair trade practices. When violations occur in one or more state judicial circuits, the Department of Legal Affairs (the Attorney General) is authorized to enforce violations. When violations occur within one judicial circuit, the Department of Agriculture and Consumer Services is responsible for enforcement. Both agencies have the authority to: issue injunctions and cease and desist orders; render declaratory judgements; and seek action for damages on behalf of a consumer. A copy of this statute was not available at the time of printing.

Florida Statutes 516-001 to 516.37: Florida Consumer Finance Act

This Act protects consumers by regulating small loan companies; setting maximum allowable interest rates; establishing a consumer's liability for a credit transaction; setting limits on deficiency claims by a creditor; and establishing consumer credit counselling. The Department of Banking and Finance has the authority to issue, deny, revoke, suspend, and reinstate the license of those persons regulated by this Act. The Department also has investigatory powers. It can issue cease and desist orders and injunctions as well as appoint a receiver. A copy of this statute was not available at the time of printing.

Florida Statutes, Chapter 468: Construction Industry License

This Act protects consumers by regulating the construction industry. The Construction Industry Licensing Board within the Department of Professional Regulation has been created to enforce this measure. All persons doing contracting work within the state must be registered with, or receive a certificate from the Board. Failure to register with the Board is a misdemeanor. Local regulatory boards are charged with revoking or suspending certificates or registrations and may impose fines upon violators. A copy of this statute was not available at the time of printing.

Florida Statutes 501.021 - 501.55: Home Solicitation Sales

In order to protect the consumer from high-pressure sales tactics, the buyer has three days with which to reconsider his decision and cancel his order. The Division of Consumer Services has the authority to investigate complaints for violations of the law. A copy of this statute was not available at the time of printing.

B. Solar Statutes

Income Tax Incentives

Florida does not have an individual income tax.

Sales/Excise Tax

Chapter 79-339, Laws of 1979: Sales Tax Exemption for Solar Energy Systems and Components

The retail sale, rental, use, consumption, distribution, and storage of solar energy systems or components of such systems -- defined as equipment and hardware used for the collection, transfer, storage, and use of incident solar energy for water and space heating, cooling, or other applications which would otherwise require the use of a conventional source of energy, such as petroleum products, natural gas, manufactured gas or electricity -- are exempt from Florida's four percent sales tax. This sales tax exemption is in effect until June 30, 1984.

Solar Access

Chapter 78-309, Laws of 1978: Creation of Solar Easements

Easements obtained for the purpose of maintaining the exposure of a solar energy device are to be put in writing and are also subject to being recorded and indexed in the same manner as any other instrument affecting the title to real property. The provisions which must be followed to obtain an easement are outlined in detail.

Standards and Construction Regulation

Chapter 74-361, Laws of 1974: Solar Water Heating Requirement for Single-Family Residences

No single-family residence is to be constructed in Florida unless its plumbing system is designed to facilitate the future installation of solar water-heating equipment. The purpose of this law is to minimize the cost of rearranging the plumbing should solar water heaters be added to buildings.

Chapter 74-187, Laws of 1974: Life-Cycle Costs

State agencies may neither lease nor construct a facility without first securing an evaluation of its life-cycle cost as computed by either an engineer or architect. These life-cycle cost evaluations are required only for buildings under construction which have an area of 5,000 square feet or more or for leased areas of 20,000 square feet or more.

Life-cycle cost shall be the sum of the reasonably expected fuel costs over the life of the building plus reasonable costs for building maintenance. The bill provides details on methods of its calculation.

Chapter 76-246, Laws of 1976: Solar Energy Standards Act of 1976

The Florida Solar Energy Center is authorized to establish standards, require disclosure, and set testing fees for all solar energy systems manufactured or sold in the state for water heating or space heating and cooling. Testing fees are to be deposited in the Solar Energy Center Testing Trust Fund in the State Treasury and disbursed when needed to cover costs.

Chapter 78-277, Laws of 1978: Solar Energy in Educational Facilities

When designing and constructing new permanent educational facilities, district school boards must consider the placement of sufficient windows to utilize the natural Florida climate for both lighting and ventilation in case of power shortages. Whenever feasible, a district school board shall install solar energy systems in the public schools.

Chapter 78-309, Laws of 1978: Solar Standards

All solar energy systems manufactured or sold in Florida must meet the regulatory standards established by the Florida Solar Energy Center and shall display accepted results of approved performance tests in a manner prescribed by the Center.

Chapter 78-27, Laws of 1978: Life-Cycle Costing

As of January 1, 1979, no state agency in Florida may begin to construct a building which incorporates the use of an energy system other than a solar energy system when a life-cycle cost analysis, prepared by the Division of Building Construction and Property Management, has determined that a solar energy system is the most efficient system for the facility or unit.

Other

Chapter 74-185, Laws of 1974: Creation of a Solar Energy Center

The State Board of Regents of Florida's University System is authorized to develop a plan for a state solar energy center to advance solar research and development, to disseminate solar information, to be involved in grant assistance program development, to work on developing solar standards, and to engage in projects designed to point out solar energy's capability as a resource for meeting Florida's future energy needs.

3. Licensing/Certification

A. State Licensing Agency

for initial license

Construction Industry Licensing Board
Post Office Box 2
Jacksonville, Florida 32201
(904) 359-6310

See Section 2:
Florida Statutes, Chapter 468: Construction Industry License

for renewals:

Department of Professional and Occupational Regulation
2009 Apalachee Parkway
Tallahassee, Florida 32301
(904) 488-6602

County occupational licenses are required for plumbers and heating air conditioning specialists.

B. RCS Plan: Listing Criteria

Installers:

1. An agreement that the installer will comply with applicable DOE installation standards and any state or local codes, if applicable to program measures, and install only measures that are labeled as meeting DOE material standards;
2. An agreement that the installer will install only measures that are covered by the measures warranty;
3. An agreement that the installer will comply with all applicable federal, state and local laws and regulations, including all home improvement and contractor licensing laws, building permits, and zoning regulations;
4. An agreement that the installer will participate in good faith in the complaints conciliation conference when a complaint is made by a customer;
5. Assurance that the installer has adequate worker's compensation insurance and comprehensive liability insurance when these are not already a part of licensing requirements;
6. An agreement by the installer to use a contract which gives a description of the job to be performed, its cost, and a statement that the installation will be in compliance with all applicable DOE material and installation standards;
7. A guarantee in every contract that any violation of DOE material and installation standards will be corrected at no additional cost to the customer;
8. Assurance that all installers of flue opening modifications, electrical or mechanical ignition systems, or solar domestic hot water systems have been qualified in accordance with this plan;
9. An assurance that where the installer is required to have a Florida Construction Industry Licensing Board certification and/or registration number, the contractor shall display that number on all bids to do work;
10. An agreement that the installer will pay the cost of any necessary reinspection required as a result of an improper installation of a program measure for which mandatory inspection is required.

Suppliers:

1. An agreement to supply measures which meet applicable DOE material standards, and are labeled as complying with these standards;
2. An agreement to supply measures (except for caulking and weatherstripping) that carry the program warranty;
3. An agreement to comply with all applicable federal, state and local laws and regulations;
4. An agreement to have a method for informing customers as to which products supplied by the supplier are program measures, and therefore meet applicable RCS material standards and carry the measures warranty; and
5. An agreement to participate in good faith in the complaint conciliation conference when a complaint is made by a customer.

Delisting Criteria:

Any supplier, installer, or lender can be removed from the Master Record for violation of listing criteria and failure to correct the violation. Repeated violations, even where corrected, may be grounds for delisting. All suspected violations and any subsequent corrective action will be reported to the listing agency by post-installation inspectors and those mediating customer complaints. Delisting procedures may be initiated at the listing agency's discretion after a firm has received two notifications to correct the same violation and does not respond, or for those installations requiring mandatory inspections, where no action has been taken within one week of notification of violation by an inspector.

4. Codes/Standards

A. Residential Codes

Building Code:	Counties and municipalities must adopt a code based on one of the following model codes:
Reference Code:	Standard Building Code (SBCC), South Florida Building Code, National Building Code (American Insurance Assoc.), EPCOT Code, 1 & 2 Family Dwelling Code (NCSBCS)
State Enforcement Agency:	Bureau of Codes and Standards Department of Community Affairs 2571 Executive Center, Circle E Tallahassee, Florida 32301

Energy Code: Florida Model Energy Efficiency Code

Reference Code: NCSBCS Code for Energy Conservation in New Construction

State Administration Agency: State Energy Office
Bryant Building
Tallahassee, Florida 32304

Enforcement Level: County and Municipal level

Comments: All counties must, by state law, enforce energy codes based on one of the following:

Florida Model Energy Efficiency Code
ASHRAE 90-75
HUD Minimum Property Standards
Appendix "J" of the Standard Building Code

B. RCS Plan: Standards

Certain renewable resource measures installed under the RCS program must adhere to the following installation and materials standards:

<u>Standard</u>	<u>Measure</u>
HUD <u>Intermediate Minimum Property Standards Supplement, Solar Heating and Domestic Hot Water Systems, 4930.2, 1977 Edition.</u>	- Active Solar Domestic Hot Water Systems
	- Thermosiphon Hot Water Heaters (excluding <u>IMPS</u> Section 5-615-1.4.2 and Appendix A)
	- Replacement Swimming Pool Heaters which employ flat plate collectors or nonpotable fluid
RCS Regulation 456.705, published <u>Federal Register</u> , Vo..44, No. 247, 75966-75969.	- Wind energy devices

C. State Standards

See Section 2:

- Chapter 76-246, Laws of 1976: Solar Energy Standards Act of 1976
- Chapter 78-309, Laws of 1978: Solar Standards

5. Testing and Product Certification

See Section 2:

Chapter 78-309, Laws of 1978: Solar Standards

6. Audits and Inspections

A. RCS Plan: Audits

According to the Florida RCS Plan, thirteen participating utilities will offer energy audits to their residential customers. The RCS audit procedure includes a program announcement which will:

- List the energy conservation and renewable resource measures.
- Suggest simple inexpensive steps customers may take to reduce energy consumption in their homes.
- Estimate potential savings.
- Offer on-site energy audits upon request.
- Offer assistance in arranging installation and financing and describe other program services.

The on-site audit will determine whether renewable resource measures are applicable to the individual residence. For each applicable solar measure, the optimum collector area, solar system performance, total solar system cost, and estimated first year savings that will accrue to the homeowner from the solar installation will be provided.

Consumers who participate in the RCS program will be eligible for the following benefits:

- One year warranty on products, except caulking and weatherstripping (See Section 7).
- Products that meet DOE standards for safety and effectiveness (See Section 4).
- Installation of products in conformance with DOE installation standards (See Section 4).
- Listed suppliers, installers and lenders who must meet a number of requirements (See Section 3).
- Access to a conciliation conference and redress procedures (See Section 8).

B. RCS Plan: Inspections

The RCS Plan provides for post-installation inspections of renewable resource measures as follows:

<u>Measure</u>	<u>Post-Installation Inspection Requirement</u>
Wind energy devices	All installations
Active solar domestic hot water systems	All installations
Passive solar heating and cooling systems	10% of all installations and at least one for each contractor
Replacement solar swimming pool heaters	10% of all installations and at least one for each contractor

Post installation inspections will be performed by the local building inspector or other permit-issuing authority.

C. Residential Code Enforcement

See Section 4.A.

7. Warranties

A. State Warranty Requirements

The state has not enacted specific warranty requirements for solar products.

B. RCS Plan: Warranty Requirements

All renewable resource measures installed under the RCS program must be covered by a manufacturer's or contractor's warranty which certifies that the measure will have a useful life of at least one year.

8. Consumer Response Systems

A. Organizations Which Are or May Be Involved in Solar Consumer Response Systems

Florida Office of Consumer Protection
Governor's Energy Office

Florida Solar Energy Center
Florida Department of Professional Regulation
Better Business Department of local Chamber of Commerce
Solar Coalition
Florida Home Builders Association
Florida Solar Users Network
Florida Solar Energy Industries Association
Northeast Florida Solar Energy Association
Solar Industry

B. RCS Plan: Complaints Processing Procedures

Conciliation Conference:

The Division of Consumer Services will provide a toll-free number to assist customers in resolving complaints against installers, suppliers, and lending institutions in regard to an RCS program measure. The complaints resolution process shall be conducted in accordance with procedures established by the Division of Consumer Services. Refusal by an installer, supplier, or lender to participate in a complaints conciliation process will be considered grounds for delisting.

The Division of Consumer Services will refer complainants who are not satisfied with the outcome of the conciliation conference to the appropriate court for further action.

Redress Procedures:

A redress proceeding for all persons alleging injury arising from an activity carried out under the State Plan or from a violation of the State Plan, is available through the Florida circuit courts.

9. Training Programs

A. Post Secondary Training Resource for Solar Installers

University of Florida
Gainesville, Florida 32611

Brevard Community College
1519 Clearlake Road
Cocoa, Florida 32922

Dade Community College at Miami
Miami, Florida 33176

Pensacola Junior College
Pensacola, Florida 32504

Santa Fe Community College
Gainesville, Florida 32601

Pinellas Vocational Technical Insititute
6100 154th Avenue North
Clearwater, Florida 33520

St. Augustine Technical Center
Collins Avenue at Delmonte Drive
St. Augustine, Florida 32084

South Florida Technical Institute
201 W. Sunrise Blvd.
Ft. Lauderdale, Florida 33311

Florida Solar Energy Center
300 State Road 401
Cape Canaveral, Florida 32920

Gulf Coast Community College
Panama City, Florida 32401

B. Secondary Solar Vo-Tech Educational Programs

Solar technology instruction is taught within the standard air conditioning and heating courses offered within the secondary vocational program. Some of the carpentry programs incorporate solar technology as well. However, no strictly solar courses exist at the secondary level.

Due to the interest which has been generated in solar energy and the need for skilled solar personnel, the Florida Department of Education is considering the development of a solar systems installation in-service course as well as other solar and energy-related courses.

GEORGIA

1. Information Programs

Organization

Georgia Solar Coalition
3110 Maple Drive, Room 403A
Atlanta, Georgia 30305

Georgia Solar Energy Association
Campus Box 32743
Georgia Institute of Technology
Atlanta, Georgia 30332

Georgia Solar Energy Industry Association
Bill Schwendler, President
Grumman Corporation
1420 First National Bank Tower
Atlanta, Georgia 30303

Georgia Office of Energy Resources
Bureau of Planning and Budget
270 Washington Street, SW
Atlanta, Georgia 30334
(404) 656-5176

Sun/Rep (Southern Unity Network/
Renewable Energy Projects)
Suite 412, 3110 Maple Drive
Atlanta, Georgia 30305
(404) 261-1764

Tallatoona EOA, Inc.
P.O. Box 686
Cartersville, Georgia 30120
(404) 382-5388

Taylor-Williams
5 Baltimore Place, NW
Atlanta, Georgia 30308
(404) 892-2800

Services

newsletter, seminars,
lending library, speakers
bureau

newsletter, workshops

demonstration projects,
films, speakers, work-
shops

newsletter

workshops and exhibits
demonstration projects

2. State Consumer Protection and Solar Statutes

A. Consumer Protection Statutes

Act 130, Laws of 1975: Fair Businesses Practice Act of 1975

The purpose of this Act is to protect consumers and legitimate business enterprises from unfair or deceptive practices in the conduct of any trade or commerce occurring within the State. To this end, a 15 member Consumer Advisory Board and a gubernatorially appointed Administrator are created to determine consumer-related policy, coordinate and review present consumer programs, promote consumer protection legislation, and receive consumer complaints which are to be sent to the appropriate agency for action. The Administrator, with the cooperation of the Attorney General may bring court action on behalf of a consumer in order to recover general damages. The injured consumer may also initiate court action upon written notification to the prospective respondent within 30 days prior to the filing of such court action. In cases where the court finds that there was an intentional violation of this Act, the court shall award the actual damages. Violations of this Act are punishable by fines not to exceed \$2,000 per violation.

Act 1291, Laws of 1980: Business Opportunity Act

This law is designed to protect the purchaser of a business opportunity--defined as the sale or lease of any products, equipment, supplies, or services which are sold to a purchaser in order to help him start a business--in a number of ways. First, the seller must provide the purchaser with a disclosure statement at least 48 hours before the contract is signed or considered. The statement must contain information regarding the seller's business and financial history, affiliates, details as to promised training and/or services to be provided, and other pertinent information as well as a prepared statement noting that the State of Georgia does not endorse or sponsor any business opportunity. Second, the seller of every business opportunity must file a copy of the disclosure statements with the Administrator of the Fair Business Practices Act before advertising his business opportunity within the State. Should the seller be required to provide a bond or establish a trust account, a copy of the bond or notification of the establishment of the account must also be made to the Administrator of the Fair business Practices Act. Third, the business opportunity seller must provide proof of the claimed earnings potential of the venture, if such a claim is made. Fourth, all contracts are to be in writing. Fifth, should the seller fail to comply with this Act or fail to deliver the products needed to begin business operations within 45 days, the purchaser may void the contract within one year of its signature, upon written notice to the seller. The seller must then return all fees. Failure to comply with this Act is a felony and is punishable by imprisonment for not more than five years in the State penitentiary or by a fine of not more than \$50,000, or both.

B. Solar Statutes

Property Tax Incentives

Georgia Constitution, Article VII, Section 1, Paragraph IV, 1976: Property Tax Exemption for Solar Energy Heating and Cooling Systems

Any county or municipality may exempt from ad valorem taxation the entire value of a solar energy heating or cooling system as well as the machinery and equipment directly used in the manufacture of such systems. Solar energy heating or cooling systems are defined as all controls, tanks, pumps, heat exchangers, and other equipment used directly and exclusively for the conversion of solar energy for heating or cooling. This property tax exemption will expire on July 1, 1986.

Sales/Excise Tax

Chapter 1030, Laws of 1976: Georgia Solar Sales Tax Exemption

The sale or use of machines and equipment which are used directly in the conversion of solar energy for heating and cooling and are to be attached to either agricultural operations, industrial, commercial, or residential property, are exempt from Georgia's four percent sales tax. The sales tax exemption will expire on July 1, 1986.

Chapter 1309, Laws of 1978: Sales Tax Exemption for Solar Energy Systems

Solar Access

Chapter 1446, Laws of 1978: Solar Easements

Solar easements, the contents of which are prescribed in the law, are recognized and subject to the same requirements as other easements.

3. Licensing/Certification

A. State Licensing Agency

Building contractors are not licensed by the State.

State Construction and Industry Licensing Board
166 Pryor Street
Atlanta, Georgia 30303
(404) 656-3986

Plumbing Division
Conditioned Air Division

B. RCS Plan: Listing Criteria

Installers:

1. Comply with applicable installation standards and, with respect to materials for which there is an applicable standard install only materials labeled as complying with DOE standards;
2. Install only measures covered by the measures warranty, except that no measures warranty is necessary for caulking and weatherstripping;
3. Furnish the customer with a written contract detailing the job to be performed and its cost, and certifying that any applicable requirements for installation and material standards will be complied with;
4. Assure that all individuals who are employed or otherwise retained by the contractor to install flue opening modifications, electrical or mechanical ignition systems, or wind energy devices have been qualified pursuant to the applicable provisions;
5. Include in every contract a guarantee that the contractor will correct any violation of any installation standards without cost to the customer;
6. Include in every contract for installation of a flue opening modification, electrical or mechanical ignition devices, or wind energy devices a guarantee to correct any violation of the standards without cost to the customer, as soon as possible after notification of any such violation;
7. Have an adequate and binding surety contract in the amount of \$150,000 against liability arising from activities associated with the installation of Program measures;
8. Comply with all applicable Federal, State, and local laws and regulations;
9. Agree to participate in good faith in the conciliation conference when there is a complaint;
10. Have a performance bond to protect customers from less than complete and satisfactory work;
11. Agree to accept the request for bid form filled out by the auditor, and contact the customer by telephone for any additional information before returning the bid to the customer. An additional visit to the job site may be made at the consent of the customer;

12. Agree to refrain from recommending to a consumer, in connection with an RCS program activity the installation of a replacement furnace, boiler or heat pump or air conditioner, if each equipment uses a fuel different from that used by the existing equipment.

Suppliers:

1. With respect to the program measures the supplier is listed as carrying, supply program measures that carry the measures warranty;
2. With respect to the program measures the supplier is listed as carrying, if there is an applicable standard supply program measures that are labeled as complying with DOE standards;
3. Comply with all applicable Federal, State and local laws and regulations;
4. Have a method for informing customers of those products supplied by the supplier that are program measures, that have a measures warranty (except for caulking and weatherstripping), and that meet any applicable standards; and
5. Agree to participate in good faith in the conciliation conference when there is a complaint by an eligible customer against such person.

Delisting Criteria:

The Office of Energy Resources will initiate action to remove from the Master Record any listed business which, on two separate occasions, through customer complaints and/or the post-installation inspection process, has:

- been found to be in violation of the above listing criteria;
- been determined to have provided false information on the listing application; and
- been found to have proceeded improperly in such ways as misrepresentation or false claims concerning the listed business and/or the RCS program, or improper supply, installation for financing standards and procedures, and failed to correct these violations after two notices.

Any one violation of material and installation standards found to endanger the public's or a consumer's health and safety will be grounds for delisting, if the situation is not corrected within 48 hours of the first notification.

4. Codes/Standards

A. Residential Codes

Building Code: Georgia State Building Code (non-mandatory)

Reference Code: Standard Building Code (SBCC)

State Enforcement Agency: Department of Community Affairs
Office of Construction Codes and Safety
166 Pryor Street, SW
Atlanta, Georgia 30303
(404) 656-5530

Energy Code: Georgia State Energy Code for Buildings

Reference Code: NSCBCS Model Code for Energy Conservation in New Building Construction

State Administration Agency: Department of Community Affairs
Office of Construction Codes and Safety
166 Pryor Street, SW
Atlanta, Georgia 30303
(404) 656-5530

Enforcement Level: Local

Comments: While the building code is not mandatory, the energy code is. All enforcement is done at the local level.

B. RCS Plan: Standards

Certain renewable resource measures installed under the RCS program must adhere to the following installation and materials standards:

<u>Standard</u>	<u>Measure</u>
HUD <u>Intermediate Minimum Property Standards Supplement</u> , Solar Heating and Domestic Hot Water Systems, 4930.2, 1977 Edition.	- Active Solar Domestic Hot Water Systems

- Thermosiphon Hot Water Heaters (excluding IMPS Section 5-615-1.4.2 and Appendix A)
- Replacement Swimming Pool Heaters which employ flat plate collectors or nonpotable fluid

C. State Standards

State material and installation standards for solar products have not been enacted.

5. Testing and Product Certification

Testing and certification of solar products is not required by the state.

6. Audits and Inspections

A. RCS Plan: Audits

According to the Georgia RCS Plan, six participating utilities will offer energy audits to their residential customers. The RCS audit procedure includes a program announcement which will:

- List the energy conservation and renewable resource measures.
- Suggest simple inexpensive steps customers may take to reduce energy consumption in their homes.
- Estimate potential savings.
- Offer on-site energy audits upon request.
- Offer assistance in arranging installation and financing and describe other program services.

The on-site audit will determine whether renewable resource measures are applicable to the individual residence. For each applicable solar measure, the optimum collector area, solar system performance, total solar system cost, and estimated first year savings that will accrue to the homeowner from the solar installation will be provided.

Consumers who participate in the RCS program will be eligible for the following benefits:

- One year warranty on products, except caulking and weatherstripping (See Section 7).
- Products that meet DOE standards for safety and effectiveness (See Section 4).
- Installation of products in conformance with DOE installation standards (See Section 4).
- Listed suppliers, installers and lenders who must meet a number of requirements (See Section 3).
- Access to a conciliation conference and redress procedures (See Section 8).

B. RCS Plan: Inspections

The RCS Plan provides for post-installation inspections of renewable resource measures as follows:

<u>Measure</u>	<u>Post-Installation Inspection Requirement</u>
Active solar domestic hot water systems	4 of first 10 installations by each contractor
Passive solar heating and cooling systems	10% of all installations and at least one for each contractor
Replacement solar swimming pool heaters	10% of all installations and at least one for each contractor

Post installation inspections will be arranged by the participating utility.

C. Residential Code Enforcement

See Section 4.A.

7. Warranties

A. State Warranty Requirements

The state has not enacted specific warranty requirements for solar products.

B. RCS Plan: Warranty Requirements

All renewable resource measures installed under the RCS program must be covered by a manufacturer's or contractor's warranty which certifies that the measure will have a useful life of at least one year.

8. Consumer Response Systems

A. Organizations Which Are or May Be Involved in Solar Consumer Response Systems

Attorney General's Office
Georgia Office of Consumer Affairs
Georgia Office of Energy Resources
State Examining Boards
Georgia Solar Coalition
Better Business Bureau
Solar Energy Industry Association of Georgia
Solar Industry

B. RCS Plan: Complaints Processing Procedures

Conciliation Conference:

The Governor's Office of Consumer Affairs will be responsible for providing consumers with a conciliation conference to resolve complaints by consumers against persons who sell, install, or finance the sale or installation of program measures arranged under the RCS Program. The Office of Consumer Affairs is Georgia's primary consumer protection and information agency. It incorporates the Georgia Tie-Line Program and the Fair Business Practices Act Enforcement Unit to provide a balanced and accessible consumer protection program for the citizens of Georgia.

The Tie-Line Unit is a centralized statewide information and referral service. Through its well publicized statewide toll-free number, the Office of Consumer Affairs is accessible to consumers throughout Georgia without any cost barrier. Hearing impaired Georgians have access through a teletype unit, and the needs of Spanish-speaking consumers are addressed by a specially trained counselor in conjunction with the Metropolitan Atlanta Coalition for the Advancement of Hispanics.

The Office of Consumer Affairs Enforcement Unit operates under the authority of the Georgia Fair Business Practices Act of 1975 (Ga. Laws 1975, pp. 376, ff; Ga. Code Ann 106-1201 et.seq.) which declares illegal unfair and deceptive practices in consumer transactions. The Act, among other things, grants authority to issue investigative demands and subpoenas, to conduct hearings, and to bring actions in the name of the State to restrain prohibited acts and practices. The Act also provides for injunctive relief and civil penalties of up to \$2,000 per violation. Based upon this legislative authority, a team of intake counselors and investigators answer consumer questions and mediate, investigate and seek legal remedies for consumer complaints. An Energy Fraud Unit has existed within the Office of Consumer Affairs since October of 1977.

The toll free telephone number of the Office of Consumer Affairs will be printed on the program announcement and the audit results, and customers will be told of the availability of the service by the auditor.

The Administrator of the Office of Consumer Affairs may request that the Office of Energy Resources institute removal procedures against any listed business based on documented infraction of listing requirements or record of customer complaints. Complete case histories will be retained and file documents and staff investigators will be available as required for OER actions regarding removal from the Master Record and Redress Procedures/Civil Actions contesting removal.

Redress Procedures:

Several avenues of redress are open to persons alleging injury arising from an activity carried out under the RCS Plan, or from a violation of the RCS Plan.

- 1) Justice Court - Article VI., Section VII., Paragraph I. and Article VI., Section VIII, Paragraph I. of the Georgia Constitution establish the office of the justice of the peace and provide for two justices in each militia district of the State. One of these justices is elected to office by the voters of the district and the other is appointed to that position. In Georgia each county is divided into militia districts according to its territory and population. (Ga. Code Ann. Sec. 23-201, et. seq.)

A justice court is granted general and original jurisdiction in all civil cases arising in contract and cases of injury, damage to, and conversion of personal property where the principal sum claimed does not exceed \$200.00 (Georgia Constitution Article VI., Section VII, Paragraph II.) However, several separate actions concerning the same parties, each under \$200, may be handled by the justice courts.

A justice court in hearing any civil action first will decide the matter by the justice of the peace. Either party dissatisfied with the determination by the justice of the peace has the right to appeal that decision to a jury in that court whereupon cases are retried before the jury.

- 2) Small Claims Courts - the small claims courts in the State of Georgia are created by local or special acts of the Legislature. The first such small claims court was established by the Legislature in 1957. Since

that date there have been small claims courts established in over half the counties in the State; more are established each year. Because these courts are provided for by individual local acts of the General Assembly, there is no specific legal citation for them. The jurisdictional amount conferred upon small claims courts varies under each act. Typically, however, such amounts are limited to \$500.00 in disputes.

- 3) Governor's Office of Consumer Affairs - The Office of Consumer Affairs Enforcement Unit operates under the authority of the Georgia Fair Business Practices Act of 1975 (Ga. Laws 1975, pp. 376 ff; Ga. Code Ann. Sec. 106-1201 et. seq.) which declares illegal unfair and deceptive acts and practices in consumer transactions. The Act, among other things, grants authority to issue investigative demands and subpoenas, to conduct hearings, and to bring action in the name of the State to restrain prohibited acts and practices. The Act also provides for injunctive relief and civil penalties of up to \$2,000 per violation.

Perhaps the most often used tool of the OCA is the Assurance of Voluntary Compliance, signed by the business, acknowledging its future intentions to abide by agreed upon standards of practice. This document, which is the result of negotiations between OCA, on behalf of the State, and the business, is then filed in the courthouse. This action provides a sound legal basis for any future action against the business on the same problem. The Assurance may also contain the business's consent to make good any proper actions.

- 4) For right of civil action, the Superior Courts and State Court of the respective counties in Georgia have general jurisdiction to enforce contracts or the award of damages resulting from negligence. (See Ga. Code Ann. Sec. 24-2106a, 24-2615).

9. Training Programs

A. Post Secondary Training Resources for Solar Installers

Georgia Institute of Technology - Main Campus
Atlanta, Georgia 30332

Georgia State University
Atlanta, Georgia

University of Georgia
Athens, Georgia 30602

DeKalb Community College
495 North Indian Creek Drive
Clarkston, Georgia 30021

North Georgia Technical and Vocational School
Highway 197 North
Clarkesville, Georgia 30523

B. Secondary Solar Vo-Tech Educational Programs

No secondary solar vo-tech educational programs have been identified.

NORTH CAROLINA

1. Information Programs

Organization

Carolínians for Safe Energy
P.O. Box 8165
Asheville, North Carolina 28804

Energy Division
Department of Commerce
P.O. Box 25249
Raleigh, North Carolina 27611

Integrated Energy Systems
211 North Columbia Street
Chapel Hill, North Carolina 27514
(919) 942-2007

The Long Branch Environmental Education Center
Big Sandy Mush
Route 2, Box 132
Leicester, North Carolina 28748

Lorien House
P.O. Box 1112
Black Mountain, North Carolina 28711

The Mother Earth News
P.O. Box 70
Hendersonville, North Carolina 28739
(704) 693-0211

The North Carolina Coalition for Renewable
Energy Resources
Post Office Box 10564
Raleigh, North Carolina 27605
(919) 286-7611

North Carolina Solar Energy Association
Post Office Box 12235
Research Triangle Park, North Carolina 27709

W.A.M.Y. Community Action, Inc.
P.O. Box 552
Boone, North Carolina 28607
(704) 264-2421

Services

workshops, solar energy
seminars, slide show,
folders, monthly news-
letter

newsletter; slide show;
list of solar dealers,
manufacturers, archi-
tects and engineers
toll free hot line
1-800-662-7131

demonstration projects,
workshops, publication

demonstration projects

literature, informa-
tional requests

seminars, radio program
information, literature

demonstration projects,
workshops, exhibits

2. State Consumer Protection and Solar Statutes

A. Consumer Protection Statutes

N.C. General Statutes 75-1.1: Fair Business Protection Act

This measure is designed to protect the consumer from unfair and deceptive business practices. The powers enacted under the Act include: the establishment of an office, within the office of the Attorney General, to receive consumer complaints; the investigation of consumer complaints; the making of recommendations for or against legal action; and the prosecuting of alleged violators of these provisions. In enforcing this law, the Attorney General has the power to issue injunctions, seek restitution and civil penalties. Private citizens are entitled to receive three times the amount of damages and attorney fees from a violator of this Act. A copy of this measure was not available at the time of printing.

N.C. General Statutes 25-A-38 et seq.: Home Solicitation Sales

In order to protect the consumer from high-pressure sales tactics, this law gives a consumer three days in which to cancel any sale which was made at the consumer's home. The Attorney General has the power to issue injunctions against alleged violators. Private court action may also be taken to rescind the transaction. A copy of this measure was not available at the time of printing.

N.C. General Statutes 66-94 et seq.: Business Opportunity Sales Act

This law is designed to protect the purchaser of a business opportunity from fraudulent sales practices on the part of the seller. The Secretary of State, the Attorney General and the district attorneys are charged with the responsibility of enforcing these provisions. Alleged violators are subject to private action on the part of the aggrieved purchaser, civil action and civil penalties on the part of the Attorney General, and criminal action and criminal penalties on the part of the district attorneys. A copy of this law was not available at the time of printing.

N.C. General Statutes Chapter 24; Chapter 25A; Chapter 53, Article 15: Credit Regulation: Usury Retail Instalment Sales Act

The purpose of this Act is to set fair interest rates and credit sales rules. The Banking Commission, the Savings and Loan Commission, and the Credit Union Commission are charged with enforcing this Act. A copy of these statutes were not available at the time of printing.

Uniform Code - Sales, N.C. General Statutes 25-2-101 et seq.:
Consumer Product Warranties

This statute contains the state's laws on consumer product warranties as part of the general law relating to the sale of goods. No state agencies are charged with administering this law. Restitution for alleged violations of the law may be sought by the aggrieved through private means. A copy of this measure was not available at the time of printing.

B. Solar Statutes

Income Tax Incentives

Chapter 792, Laws of 1977: Energy Conservation Act of 1977

Any person, partnership, or corporation which constructs or installs a solar hot water system or a solar heating or cooling system in any residence or other building in the state is entitled to an income tax credit of 25 percent of the system's purchase and installation costs, up to a maximum credit of \$1,000. A solar hot water, heating and cooling system is defined as any hot water, heating or cooling equipment which meets the performance criteria established by the Solar Heating and Cooling Demonstration Act of 1974 or the Secretary of Revenue. Tax credits are authorized for a number of energy conservation measures as well.

Chapter 892, Laws of 1979: Amends the Energy Conservation Act of 1977 (above)

In order to qualify for the 25 percent state income tax credit for the purchase and installation of solar energy heating and cooling systems, the systems must meet the criteria established by the U.S. Secretary of the Treasury or criteria approved by the North Carolina Secretary of Revenue. Formerly, the qualifying criteria were set by the National Solar Heating and Cooling Demonstration Act of 1974.

Chapter 801, Laws of 1979: Revenue Act of 1979 (Income Tax Credit for Woodburning Boilers)

Any individual or corporation which modifies or replaces an oil or gas-fired boiler or kiln with a wood-burning one for use in the manufacturing process of a business located within the state is entitled to an income tax credit of 15 percent of the purchase and installation cost of the wood-burning equipment. In order to be eligible for the tax credit, the taxpayer must own or control the business at the time of such installation. The tax credit may be claimed only during the taxable year in which the conversion was actually made.

A 10 percent tax credit is also authorized for the construction of cogeneration power plants.

Property Tax

Chapter 965, Laws of 1977: Criteria for Assessment of Solar Energy Systems for Ad Valorem Taxes

Buildings which are equipped with solar energy heating and cooling systems are to be assessed at no more than conventionally heated or cooled buildings. The net effect of this measure is that property taxes will not rise due to the installation of solar systems. The term "system" is defined as all controls, tanks, pumps, heat exchangers, and other equipment used directly in the conversion of solar energy for heating and cooling. A "system" does not include any land or structural elements, such as walls or roofs, which are normally a part of a structure. This Act expires on December 1, 1985.

Other

Chapter 911, Laws of 1975: Appropriation of Funds for Research on a Solar Energy Conversion Unit

The School of Engineering and the School of Design at North Carolina State University is to receive state funding for conducting research and developing a solar thermal conversion unit.

Chapter 971, Laws of 1977: Appropriation of Funds for Research on a Solar Energy Conversion Unit

Funds in the amount of \$75,000 for FY 1977-78 and \$50,000 for FY 1978-79 have been appropriated to the School of Engineering and the School of Design at North Carolina State University for the purpose of conducting research and developing a solar thermal conversion unit which will produce a minimum of 1,000 KWH of electricity per month, operate (for the most part) independently of an outside energy source and be relatively maintenance free. This money is a continuation of funds from 1975-77 appropriated for the same purpose.

Part of these funds are to be used to construct and display a solar thermal conversion unit at the North Carolina State Fair.

3. Licensing/Certification

A. State Licensing Agency

North Carolina Licensing Board for General Contractors
Post Office Box 10685
Raleigh, North Carolina 27605
(919) 832-1577

Board of Plumbing and Heating Contractors
Post Office Box 110
Raleigh, North Carolina 27602
(919) 828-8203

B. RCS Plan: Listing Criteria

Installers:

1. Comply with applicable installation standards and, with respect to materials for which there is an applicable standard install only materials labeled as complying with DOE standards;
2. Install only measures covered by the measures warranty, except that no measures warranty is necessary for caulking and weatherstripping;
3. Furnish the customer with a written contract detailing the job to be performed and its cost, and certifying that any applicable requirements for installation and material standards will be complied with;
4. Assure that all individuals who are employed or otherwise retained by the contractor to install flue opening modifications, electrical or mechanical ignition systems, or wind energy devices have been qualified pursuant to the applicable provisions;
5. Include in every contract a guarantee that the contractor will correct any violation of any installation standards without cost to the customer;
6. Have liability insurance equal to \$300,000 with a company licensed to do business in North Carolina;
7. Comply with all applicable Federal, State, and local laws and regulations;
8. Agree to participate in good faith in the conciliation conference when there is a complaint;
9. Upon applying to be included on the Master Record, provide the Energy Division with written verification that measures to be installed as part of this program are covered by the program warranty;
10. Have a performance and payment bond in the amount of \$3,000 to cover work performed under this Plan; and
11. Agree to notify the covered utility or participating home heating supplier that arranged the job, that the work has been completed.

Suppliers:

1. With respect to the program measures the supplier is listed as carrying, supply program measures that carry the measures warranty;

2. With respect to the program measures the supplier is listed as carrying, if there is an applicable standard supply program measures that are labeled as complying with DOE standards;
3. Comply with all applicable Federal, State, and local laws and regulations;
4. Have a method for informing customers of those products supplied by the supplier that are program measures, that have a measures warranty (except for caulking and weatherstripping), and that meet any applicable standards;
5. Agree to participate in good faith in the conciliation conference when there is a complaint by an eligible customer against such person;
6. Agree to participate in good faith in the program conciliation conference, if a complaint is made by an eligible customer;
7. Upon applying to be included on the Master Record, provide the Energy Division with written verification from the manufacturer identifying each measure to be supplied as meeting applicable DOE material standards and warranty requirements; and
8. Provide any contractors who purchase measures to be installed under the Residential Conservation Service Program with written verification from the manufacturer that each measure meets applicable DOE material standards and carries the measures warranty.

Delisting Criteria:

The Energy Division will initiate action to remove from the Master Record any listed business which, on two separate occasions, through customer complaints and/or the post-installation inspection process, has:

- Been found to be in violation of the above listing criteria;
- Been found to have proceeded improperly in such a way as to misrepresent to give false claims concerning the listed business and/or the Residential Conservation Service Program; or

- Been found to have supplied, installed or financed program measures in violation of the standards and procedures of this Plan and failed to correct these violations after two notices.

Any one violation of material and installation standards found to endanger the public's or a consumer's health and safety will be grounds for delisting, if the situation is not corrected within 48 hours of the first notification.

4. Codes/Standards

A. Residential Codes

Building Code:	Uniform Residential Building Code (1 & 2 family) North Carolina State Building Code (other construction)
Reference Code:	Standard Building Code (SBCC)
State Enforcement Agency:	Department of Insurance Engineering Division P.O. Box 26387 Raleigh, North Carolina 27611 (919) 733-3901
Energy Code:	Chapter 32, Efficient Energy Utilization in New Buildings
Reference Code:	ASHRAE 90-75 and a preliminary draft of NCSBCS Model Code
State Administration Agency:	Energy Office, Conservation Programs Department of Commerce P.O. Box 25249 Raleigh, North Carolina 27611 (919) 733-5078
Enforcement Level:	County level
Comments:	Enforcement of both energy and building codes is done at the county level with the state involved only in large projects or when technical assistance is requested by the local official.

B. RCS Plan: Standards

Certain renewable resource measures installed under the RCS program must adhere to the following installation and materials standards:

<u>Standard</u>	<u>Measure</u>
HUD <u>Intermediate Minimum Property Standards Supplement, Solar Heating and Domestic Hot Water Systems, 4930.2, 1977 Edition.</u>	<ul style="list-style-type: none"> - Active Solar Domestic Hot Water Systems - Thermosiphon Hot Water Heaters (excluding IMPS Section 5-615-1.4.2 and Appendix A) - Replacement Swimming Pool Heaters which employ flat plate collectors or nonpotable fluid
RCS Regulation 456.705, published <u>Federal Register, Vo..44, No. 247, 75966-75969.</u>	<ul style="list-style-type: none"> - Wind energy devices

C. State Standards

State material and installation standards for solar products have not been enacted.

5. Testing and Product Certification

Testing and certification of solar products is not required by the state.

6. Audits and Inspections

A. RCS Plan: Audits

According to the North Carolina RCS Plan, seven participating utilities will offer energy audits to their residential customers. The RCS audit procedure includes a program announcement which will:

- List the energy conservation and renewable resource measures.
- Suggest simple inexpensive steps customers may take to reduce energy consumption in their homes.
- Estimate potential savings.
- Offer on-site energy audits upon request.
- Offer assistance in arranging installation and financing and describe other program services.

The on-site audit will determine whether renewable resource measures are applicable to the individual residence. For each applicable solar measure, the optimum collector area, solar system performance, total solar system cost, and estimated first year savings that will accrue to the homeowner from the solar installation will be provided.

Consumers who participate in the RCS program will be eligible for the following benefits:

- One year warranty on products, except caulking and weatherstripping (See Section 7).
- Products that meet DOE standards for safety and effectiveness (See Section 4).
- Installation of products in conformance with DOE installation standards (See Section 4).
- Listed suppliers, installers and lenders who must meet a number of requirements (See Section 3).
- Access to a conciliation conference and redress procedures (See Section 8).

B. RCS Plan: Inspections

The RCS Plan provides for post-installation inspections of renewable resource measures as follows:

<u>Measure</u>	<u>Post-Installation Inspection Requirement</u>
Wind energy devices	All installations
Active solar domestic hot water systems	4 of first 10 installations by each contractor
Passive solar heating and cooling systems	10% of all installations and at least one for each contractor
Replacement solar swimming pool heaters	10% of all installations and at least one for each contractor

Post installation inspections will be performed by a contractor for the program utility.

C. Residential Code Enforcement

See Section 4.A.

7. Warranties

A. State Warranty Requirements

The state has not enacted specific warranty requirements for solar products.

For requirements for all products sold in North Carolina, see Section 2:

-Uniform Code -Sales, N.C. General Statutes 25-2-101 et seq.:
Consumer Product Warranties

B. RCS Plan: Warranty Requirements

All renewable resource measures installed under the RCS program must be covered by a manufacturer's or contractor's warranty which certifies that the measure will have a useful life of at least one year.

8. Consumer Response Systems

A. Organizations Which Are or May Be Involved in Solar Consumer Response Systems

North Carolina Attorney General's Office
Energy Division, North Carolina Department of Commerce
North Carolina Consumer Council
North Carolina Solar Energy Association
North Carolina Coalition for Renewable Energy Resources
Solar Industry

B. RCS Plan: Complaints Processing Procedures

Conciliation Conference:

The Consumer Protection Section of the Attorney General's Office will be responsible for providing consumers with a conciliation conference to resolve complaints by consumers against persons who sell, install, or finance the sale or installation of program measures under the Residential Conservation Service Program.

The existence of the Consumer Protection Section is well publicized across the State of North Carolina, and the services of this office are easily available to North Carolinians at no cost to them.

The telephone number of the Consumer Protection Section will be printed on the audit results and the consumer may call the number to initiate the complaint process. These complaints will be processed in accordance with the Consumer Protection Section's standard complaint proceeding procedures:

Consumer complaints will be received by well-trained consumer specialists, who have no financial interest in any party involved in the complaint or in the outcome of the proceeding;

A business will be notified in writing of a consumer complaint with a request for a written response within 10 days. If the business fails to respond, the business will again be contacted by letter;

Upon receipt of a business' reply, the consumer specialist will evaluate the case. If the complaint is satisfactorily resolved, the file will be marked as such. If differences still exist, the specialist may begin a mediation/conciliation process which may be conducted by telephone, correspondence, or by a group meeting. The consumer's participation in this conference is strictly voluntary; and

If the conciliation process fails to reach an equitable resolution, the consumer will be advised of options available for further action.

Redress Procedures:

A redress proceeding is available in North Carolina to all persons alleging injury arising from an activity carried out under the RCS Plan.

The details of this procedure may be summarized as follows:

Under 7A-210 of the North Carolina General Statutes, a small claim action may be brought in District Court where the principal relief claimed does not exceed eight hundred dollars (\$800.00).

A small claim action in District Court will normally be decided by a magistrate. Either party dissatisfied with the determination made by the magistrate has the right to appeal that decision to the District Court, whereupon the case will be retried de novo before a District Court Judge or jury, upon request.

A right of civil action in the State courts of North Carolina is also available to all persons seeking recovery of damages for an injury arising from an activity carried under the RCS Plan.

Details of this right of action may be summarized as follows:

Under 7A-240 of the North Carolina General Statutes, original general jurisdiction of all justiciable matters of a civil nature cognizable in the General Court of Justice is vested in the aggregate in the Superior Court Division and the District Court Division as the trial divisions of the General Court of

Justice. The District Court Division is the proper division for the trial of all civil actions in which the amount in controversy is five thousand dollars (\$5,000) or less; and the Superior Court Division is the proper division for the trial of all civil actions in which the amount in controversy exceeds five thousand dollars (\$5,000).

9. Training Programs

A. Post Secondary Training Resources for Solar Installers

Anson Technical Institute
P.O. Box 68
Ansonville, North Carolina 28007

Duke University
Durham, North Carolina 27706

Cape Lear Technical Institute
Wilmington, North Carolina 28401

Carteret Technical Institute
Morehead City, North Carolina 28557

Coastal Carolina Community College
444 Western Boulevard
Jacksonville, North Carolina 28540

Guilford Technical Institute
P.O. Box 309
Jamestown, North Carolina 27282

Mayland Technical Institute
P.O. Box 547
Spruce Pine, North Carolina 28777

Pamlico Technical Institute
Grantsboro, North Carolina 28529

Sampson Technical Institute
P.O. Drawer 318
Clinton, North Carolina 28328

Southwestern Technical Institute
P.O. Box 95
Sylva, North Carolina 28779

Technical Institute of Almance
P.O. Box 623
Haw River, North Carolina 27258

Western Carolina University
Cullowhee, North Carolina 28723

B. Secondary Solar Vo-Tech Education Programs

1. North Davidson High School - Davidson County
2. Bunn High School - Franklin County
3. McDowell High School - McDowell County
4. Moore High School - Moore County
5. Stanly County Vocational Center - Stanley County
6. Union County Career Center - Union County
7. Alexander Central High School - Alexander County
8. West Caldwell High School - Caldwell County
9. Sylva Webster High School - Jackson County
10. Wilkes County Vocational Center - Wilkes County

SOUTH CAROLINA

1. Information Programs

Organization

Services

Clemson University
Clemson, SC

seminars

Energy Extension Service
1429 Senate Street
Columbia, SC 29291

seminars

Governor's Division of Energy Resources
1122 Lady Street
11th Floor
Columbia, SC 29201

workshops, publications
Toll free hot line
1-800-922-1500

South Carolina Solar Energy Industry Association
Blaine Walker, President
1408 Grove Park Lane
Columbia, SC 29210

2. State Consumer Protection and Solar Statutes

A. Consumer Protection Statutes

Act 644, Sections 37-6-601 to 610, Laws of 1978: Division of
Consumer Advocacy

The Division of Consumer Advocacy is created within the Department of Consumer Affairs. The Division is charged with providing legal representation of the consumer interest before state regulatory agencies, monitoring existing regulations, consumer policies, and rate structures, submitting an annual report to the eleven member Commission on Consumer Affairs, and evaluating consumer requests and complaints. The Division of Consumer Advocacy is to have access to all non-classified documents of all state agencies which might be needed in an investigation. The Division may file petitions, on behalf of consumers, with regulatory agencies requesting them to begin hearings respecting organizations whose operations substantially affect the consumer interest. The regulations governing these petitions are detailed. The Division's advocate may intervene or participate in any civil proceeding which involves the review or enforcement of an agency action which may substantially affect the interests of consumers.

B. Solar Statutes

South Carolina has not enacted specific solar legislation.

2. Licensing/Certification

A. State Licensing Agency

Contractors Licensing Board
Post Office Box 5737
Columbia, South Carolina 29250
(803) 758-2355

Municipal licenses are required for plumbers and heating and air conditioning specialists.

B. RCS Plan: Listing Criteria

Installers:

1. File an application with a covered utility or the Division of Energy Resources;
2. Comply with applicable installation standards and install only measures that are labeled;
3. Agree to respond to periodic inquiries relating to the installation of RCS measures;
4. Installers are required to comply with all state and local regulations concerning bonding and liability insurance. Listed installers are required to have a minimum of \$100,000 in property damage and \$300,000 in bodily injury insurance;
5. Install only measures that are covered by the measures warranty (except caulking and weatherstripping);
6. Agree to provide customers with a written contract describing the job to be done, its costs and a statement that the installation will be in compliance with all applicable material and installation standards;
7. Guarantee in each contract that any violation of material and installation standards will be corrected at no additional cost to the customer within thirty (30) days following notification of such violation by an inspector after a post installation inspection;
8. Comply with all Federal, State, and local laws and regulations including all home improvement and contractor licensing laws, building permit and zoning regulations;
9. Participate in good faith in the program conciliation conference when a complaint is made by a customer;

10. Agree to accept the standard bid specification form.

Delisting Procedure:

Any supplier, installer, or lender can be removed from South Carolina's Master Record for violation of listing criteria and failure to correct the violation. Post-installation inspectors will report violations to the Division of Energy Resources within one week of the date of inspection. The inspector will also report to DER all failures to correct violations within one week or thirty days (whichever is applicable). Delisting procedures will be initiated by the DER after a firm has received three notifications to correct the same violation and does not respond or correct the violation.

4. Codes/Standards

A. Residential Codes

Building Code:	(Non-Mandatory)
	Standard Building Code (SBCC)
State Enforcement Agency:	South Carolina Building Codes Council P.O. Box 147 Columbia, SC 29217 or Division of General Services Fire Marshal 300 Gervais Street Columbia, SC (803) 758-2226
Energy Code:	Appendix "J"
Reference Code:	Standard Building Code (SBCC)
State Administrative Agency:	Energy Management Office Edgar A. Brown Building 1205 Pendleton Street Columbia, SC 29201
Enforcement Level:	Local level
Comments:	The adoption of the SBCC building code on the local level is optional; however, adoption of Appendix "J" is mandatory.

B. RCS Plan: Standards

Certain renewable resource measures installed under the RCS program must adhere to the following installation and materials standards:

<u>Standard</u>	<u>Measure</u>
HUD <u>Intermediate Minimum Property Standards Supplement, Solar Heating and Domestic Hot Water Systems, 4930.2, 1977 Edition.</u>	<ul style="list-style-type: none">- Active Solar Domestic Hot Water Systems- Thermosiphon Hot Water Heaters (excluding IMPS Section 5-615-1.4.2 and Appendix A)- Replacement Swimming Pool Heaters which employ flat plate collectors or nonpotable fluid
RCS Regulation 456.705, published <u>Federal Register, Vo..44, No. 247, 75966-75969.</u>	<ul style="list-style-type: none">- Wind energy devices

C. State Standards

State material and installation standards for solar products have not been enacted.

5. Testing and Product Certification

Testing and certification of solar products is not required by the state.

6. Audits and Inspections

A. RCS Plan: Audits

According to the South Carolina RCS Plan, six participating utilities will offer energy audits to their residential customers. The RCS audit procedure includes a program announcement which will:

- List the energy conservation and renewable resource measures.
- Suggest simple inexpensive steps customers may take to reduce energy consumption in their homes.
- Estimate potential savings.
- Offer on-site energy audits upon request.
- Offer assistance in arranging installation and financing and describe other program services.

The on-site audit will determine whether renewable resource measures are applicable to the individual residence. For each applicable solar measure, the optimum collector area, solar system performance, total solar system cost, and estimated first year savings that will accrue to the homeowner from the solar installation will be provided.

Consumers who participate in the RCS program will be eligible for the following benefits:

- One year warranty on products, except caulking and weatherstripping (See Section 7).
- Products that meet DOE standards for safety and effectiveness (See Section 4).
- Installation of products in conformance with DOE installation standards (See Section 4).
- Listed suppliers, installers and lenders who must meet a number of requirements (See Section 3).
- Access to a conciliation conference and redress procedures (See Section 8).

B. RCS Plan: Inspections

The RCS Plan provides for post-installation inspections of renewable resource measures as follows:

<u>Measure</u>	<u>Post-Installation Inspection Requirement</u>
Wind energy devices	All installations
Active solar domestic hot water systems	4 of first 10 installations by each contractor
Passive solar heating and cooling systems	10% of all installations and at least one for each contractor
Replacement solar swimming pool heaters	10% of all installations and at least one for each contractor

Post installation inspections will be arranged by the covered utilities.

C. Residential Code Enforcement

See Section 4.A.

7. Warranties

A. State Warranty Requirements

The state has not enacted specific warranty requirements for solar products.

B. RCS Plan: Warranty Requirements

All renewable resource measures installed under the RCS program must be covered by a manufacturer's or contractor's warranty which certifies that the measure will have a useful life of at least one year.

8. Consumer Response Systems

A. Organizations Which Are or May Be Involved in Solar Consumer Response Systems

South Carolina Department of Consumer Affairs
South Carolina Division of Energy Resource
South Carolina Public Service Commission
South Carolina Attorney General
South Carolina Department of Health and Environmental
Control
Chamber of Commerce
Residential Homebuilder's Association
South Carolina Solar Energy Industries Association
Solar Industry

B. RCS Plan: Complaints Processing Procedures

Conciliation Conference:

Utilities will, in their promotional information concerning the RCS Program include the warranty statement, include information concerning consumer eligibility for informal conciliation, redress, and civil action for complaints against suppliers, installers, and lenders under the RCS program, and direct consumers to the toll free line (800-922-5310) staffed by DER for assistance in resolving complaints.

Upon receipt of a complaint against a supplier, installer, or lender under the RCS program, the utility will refer the consumer to the appropriate office for conciliation. For complaints against suppliers, installers, or lenders (who are not the utility company), the conciliation agency will be the covered utility when not in conflict of interest. For these complaints, the next level of conciliation will be referring the complaints to the Department of Consumer Affairs. In cases where the covered utility is the supplier, installer, or lender, the Public Service Commission or the Department of Consumer

Affairs will be the initial conciliation agency. If the informal complaint is not resolved, an individual may thereafter file a formal complaint with the Public Service Commission and request a hearing on the complaint, or if the informal complaint is not resolved and it relates to a policy of the RCS program affecting the public interest, the Department of Consumer Affairs may file a petition for a hearing on that policy issue with the Public Service Commission. The conciliation agency handling the complaint will forward a copy of a summary of it to other affected agencies and parties.

Redress Procedures:

Redress is available through the South Carolina Magistrate's Court. The jurisdiction of these courts is limited to monetary damages of \$1,000 or less. Civil action is available through the South Carolina County Court System, limited to monetary damages of \$1,000 to \$10,000, or the South Carolina Circuit Court System, for amounts above \$10,000.

9. Training Programs

A. Post Secondary Training Resources for Solar Installers

Piedmont Technical College
Greenwood, South Carolina 29646

Tri County Technical College
P.O. Box 587
Pendleton, South Carolina 29654

Beaufort Technical College
100 South Ribaut Road
Beaufort, South Carolina 29902

Chesterfield-Marlboro Technical College
P.O. Drawer 928
Coker, South Carolina 29520

Florence-Darlington Technical College
P.O. Drawer F-8000
Florence, South Carolina 29501

Horry-Georgetown Technical College
Highway 501 East
Conway, South Carolina 29526

Trident Technical College
P.O. Box 10367
Charleston, South Carolina 29411

York Technical College
U.S. 21 Bypass
Rock Hill, South Carolina 29730

B. Secondary Solar Vo-Tech Educational Programs

The South Carolina Brick Association has been working with the vocational school masonry instructors. There will be two passive homes built as part of the vocational school program in South Carolina during this school year - one near Orangeburg and the other at the Richland North East High School. The Orangeburg home will be about 1,500 square feet and the Richland home will be about 1,000 square feet. The Orangeburg home will tentatively include a trombe wall, a brickolator, and a clerestory.

TENNESSEE

1. Information Programs

Organization

East Tennessee Energy Group
1538 Highland Avenue
Knoxville, TN 37916
(615) 546-7811

Knoxville-Knox County Community Action
Committee Energy Conservation Center
120 Bell Street
Knoxville, TN 37915

Oak Ridge Solar Engineering, Inc.
110 Peach Road, P.O. Box 3016
Oak Ridge, TN 37830
(615) 482-5290 or 483-5153

Rutherford County Solar Energy Association
Freddie Schell, President
P.O. Box 536
Murfreesboro, TN 37130

Tennessee Energy Authority
226 Capitol Blvd., Suite 707
Nashville, TN 37219

Tennessee Environmental Council
P.O. Box 1422
Nashville, TN 37202
(615) 251-1110

Tennessee Solar Energy Association
P.O. Box 448
Jefferson City, TN 37760

Services

demonstration projects,
workshops, exhibits,
literature

technical assistance

demonstration projects,
workshops, newsletters

Toll free hot line
1-800-342-1340

workshops, information
distribution, Tennessee
Environmental Report,
monthly newsletter

2. State Consumer Protection and Solar Statutes

A. Consumer Protection Statutes

Chapter 438, Laws of 1977: Consumer Protection Act of 1977

The purpose of this Act is to simplify and modify the state consumer protection laws; to protect consumers from unfair and deceptive business practices; to encourage the development of fair consumer practices; to develop means for legal redress; and to promote statewide education. Over 20 deceptive business practices have been enumerated including misrepresentation. This Act creates a ten

member Consumer Advisory Board. The Board is charged with developing policy matters relating to consumer interests, reviewing the effectiveness of state programs, eliminating duplication, and coordinating state and local programs. Whenever the Consumer Affairs Division believes that someone is violating a provision of this Act, it may, upon the approval of the Attorney General and the reporter, conduct an investigation into the alleged violation. The Division may apply to a court of competent jurisdiction for an order requiring compliance with its investigation. The absence of voluntary compliance, with the Division's investigation, is punishable by a fine of not more than \$1,000 for each violation.

B. Solar Statutes

Income Tax Incentives

Tennessee does not have an individual income tax.

Property Tax Incentives

Chapter 837, Laws of 1978: Property Tax Exemption for Solar and Wind Heating and Cooling or Electric Power

All appliances, equipment, machinery, structures and other property used primarily for heating, cooling, or electrical generation with solar or wind power are exempt from Tennessee's property tax. A solar energy unit will be assessed at a value not more than that of a conventional system needed to serve the building. The net effect is that property taxes will not rise due to solar installations. The property tax exemption expires on January 1, 1988.

Solar Access

Chapter 259, Laws of 1979: Solar Access Law of 1979

For the purpose of reducing the state's reliance on depletable energy resources and encouraging the development of solar energy, solar easements may be established to allow the owner of a solar energy system to negotiate for assurance of continued access to sunlight for his system. A solar energy system is defined as any device, mechanism, structure, or apparatus whose primary purpose is to collect solar energy and convert and store it for heating and cooling and producing generated power. A solar easement is presumed to run with the land or lands benefited and burdened, unless otherwise stated in writing. Such an easement will pass with the property's title. Local governments have the authority to grant variances in zoning regulations to protect solar systems. The requirements for information which must be included in easement documents are outlined in detail.

Standards and Construction Regulations

Chapter 403, Laws of 1979: Enforcement of the State Energy Conservation Code

T s n he State Building Commission shall utilize solar water heating systems, if cost-efficient, over the term of the bonds in any projects that involve conventional hot water systems. Design architects must certify that their new construction design meets the State Energy Conservation Code for state buildings. They must also provide for a computer simulation of the proposed design's energy use.

Grant/Loan Programs

Chapter 884, Laws of 1978: Energy Conserving Improvement Loans

Low and moderate income persons and families may receive insured loans for the purpose of purchasing solar water heaters and making energy-saving improvements to their homes. The loans are to be secured by a mortgage lien on the improved property. If feasible, the costs of the improvements are to be included in the amount of the loan. For the purpose of the loan, a solar water heater is defined as an appliance or system which is capable of producing, through the use of sunlight, most, or all, of the hot water needs of the average Tennessee household. Energy-saving improvements include insulation and energy-conserving heating and cooling systems.

3. Licensing/Certification

A. State Licensing Agency

Board for Licensing Contractors - licenses building contractors,
426 Capitol Hill Building plumbers, and heating and air
Nashville, Tennessee 37219 conditioning specialists.
(615) 741-2121

B. RCS Plan: Listing Criteria

Installers:

1. Complete and return to the Tennessee Energy Authority (TEA) a questionnaire and copies of required insurance policies. The questionnaire will contain information on the cost range of installed measures, manufacturers and brand names of each measure the contractor proposes to install under the RCS Program;
2. Notify TEA of any pricing or changes of material. Prices must comply with federal and state anti-trust and trade practice laws and regulations;

3. Agree to respond to periodic TEA questionnaires concerning installations;
4. Comply with applicable TEA standards in addition to local, state and federal laws, regulations and requirements;
5. Install only RCS-labeled materials covered by the program warranty;
6. Not make false claims nor represent any firm or installer as being employed by the State or a utility;
7. Refuse customer payment in excess of 10 percent of the amount due until job completion;
8. Attend scheduled Technician training sessions;
9. Maintain a businesslike relationship with consumers and auditors;
10. Sign a contract with each customer outlining the total cost, work completion date, certification of compliance with TEA standards, and agree to correct installation violations without charge within 30 days of notification;
11. Employ only those individuals qualified under TEA standards;
12. Complete and sign a work completion form;
13. Participate in good faith in conciliation conferences with consumers; and
14. Maintain comprehensive liability insurance coverage in an amount sufficient to protect customers from all reasonably foreseeable risks occasioned by the work to be performed. The amount will be determined by TEA in consultation with and on the advice of the Tennessee Commissioner of Insurance.

Suppliers:

1. Complete and return to TEA a questionnaire including information on the cost ranges of measures, manufacturer, and brand names of each measure the supplier proposes to sell under the RCS Program;
2. Notify TEA of any pricing or changes of material. Prices must comply with federal and state anti-trust and trade practices laws and regulations;

3. Agree to respond to periodic TEA questionnaires concerning the supply of the Measures;
4. Furnish materials which comply with applicable standards;
5. Only sell RCS-labeled materials covered by the measure's warranty;
6. Comply with the Tennessee Consumer Protection Act of 1977 with respect to the commission of unfair or deceptive acts or practices;
7. Have a method to inform customers which products are RCS Program Measures carrying applicable warranties and meeting TEA standards; and
8. Participate in conciliation conferences with consumers.

Delisting Procedures:

All persons (firms) failing to meet the requirements of the RCS Plan shall be delisted from the Master Record. TEA will also start proceedings to remove a person from the Master List upon notification by TVA that TVA has started proceedings according to the TVA Plan to remove the same person from its Master List.

4. Codes/Standards

A. Residential Codes

Building Code:	State Building Code Standard Building Code (SBCC) and National Fire Code (NFPA)
State Enforcement Agency:	Division of Fire Prevention 202 Capital Towers Building Nashville, TN 37219 (615) 741-2981
Energy Code:	Tennessee Code for Energy Conservation in New Building Construction
Reference Code:	NCSBCS Model Code for Energy Conservation in New Building Construction
State Administrative Agency:	Tennessee Energy Authority 250 Capital Hill Building 7th and Union Nashville, TN 37219 (615) 741-2994

Enforcement Level: local

Comments: Enforcement of the state energy code is as follows:

- 1) Any county which has in force as of January 1, 1979, the Standard Building Code (SBCC) satisfies the requirements of the law.
- 2) Any county which has no code but wishes to adopt one must use a code based on the NCSBCS model.
- 3) Any county not wishing to adopt a code is not required to do so.

B. RCS Plan: Standards

Certain renewable resource measures installed under the RCS program must adhere to the following installation and materials standards:

<u>Standard</u>	<u>Measure</u>
HUD Intermediate Minimum Property Standards Supplement, Solar Heating and Domestic Hot Water Systems, 4930.2, 1977 Edition.	- Active Solar Domestic Hot Water Systems
	- Thermosiphon Hot Water Heaters (excluding IMPS Section 5-615-1.4.2 and Appendix A)
	- Replacement Swimming Pool Heaters which employ flat plate collectors or nonpotable fluid

C. State Standards

See Section 2:

- Chapter 403, Laws of 1979: Enforcement of the State Energy Conservation Code

5. Testing and Product Certification

Testing and certification of solar products is not required by the state.

6. Audits and Inspections

A. RCS Plan: Audits

According to the Tennessee RCS Plan, four participating utilities will offer energy audits to their residential customers. The RCS audit procedure includes a program announcement which will:

- List the energy conservation and renewable resource measures.
- Suggest simple inexpensive steps customers may take to reduce energy consumption in their homes.
- Estimate potential savings.
- Offer on-site energy audits upon request.
- Offer assistance in arranging installation and financing and describe other program services.

The on-site audit will determine whether renewable resource measures are applicable to the individual residence. For each applicable solar measure, the optimum collector area, solar system performance, total solar system cost, and estimated first year savings that will accrue to the homeowner from the solar installation will be provided.

Consumers who participate in the RCS program will be eligible for the following benefits:

- One year warranty on products, except caulking and weatherstripping (See Section 7).
- Products that meet DOE standards for safety and effectiveness (See Section 4).
- Installation of products in conformance with DOE installation standards (See Section 4).
- Listed suppliers, installers and lenders who must meet a number of requirements (See Section 3).
- Access to a conciliation conference and redress procedures (See Section 8).

B. RCS Plan: Inspections

The RCS Plan provides for post-installation inspections of renewable resource measures as follows:

<u>Measure</u>	<u>Post-Installation Inspection Requirement</u>
Active solar domestic hot water systems	4 of first 10 installations by each contractor
Passive solar heating and cooling systems	10% of all installations and at least one for each contractor

Replacement solar swimming pool
heaters

10% of all installations and
at least one for each
contractor

Post installation inspections will be arranged by the covered utility.

C. Residential Code Enforcement

See Section 4.A.

7. Warranties

A. State Warranty Requirements

The state has not enacted specific warranty requirements for solar products.

B. RCS Plan: Warranty Requirements

All renewable resource measures installed under the RCS program must be covered by a manufacturer's or contractor's warranty which certifies that the measure will have a useful life of at least one year.

8. Consumer Response Systems

A. Organizations Which Are or May Be Involved in Solar Consumer Response Systems

Tennessee Attorney General's Office
Division of Consumer Affairs
Tennessee Valley Authority
Nashville Electric Service
Tennessee Energy Authority
HOPE, Inc.
Tennessee Environmental Council
Tennessee Solar Energy Association
Tennessee Better Business Bureau
Solar Industry

B. RCS Plan: Complaints Processing Procedures

Conciliation Conference:

A conciliation conference shall be made available for the purpose of resolving complaints by customers against persons who sell, install or finance the sale or installation of program measures. For complaints by customers against those who sell, install or finance the sale or installation of program measures, the customer's utility (at its discretion) may serve as the conciliator, except in those cases where the utility, or its subsidiary sold or installed the measure. In cases where

the utility or its subsidiary has sold or installed the measure, or in cases where the customer prefers another conciliator, the Division of Consumer Affairs of the Department of Agriculture or the lead agency, at its discretion, shall serve as the conciliator.

Redress Procedures:

In cases where the complaint is lodged against a participating utility, the complainant may seek redress through the lead agency according to the contested case provisions of the Tennessee Uniform Administrative Procedures Act (T.C.A. 4-5-101 et seq.), or through the existing complaints procedure of the Public Service Commission (Rules 1220-4-4-.23 (Electric Companies) or Rules 1220-4-5-.20 (Gas Companies)). Neither mode of redress is exclusive and no action taken by the lead agency shall affect the existing jurisdiction of the Tennessee Public Service Commission Authority: T.C.A. 4-28-109(11), -115, -119, -120.

In cases where the complaint is lodged against a contractor, supplier or lender, the deciding official shall be the Division of Consumer Affairs or the Tennessee Energy Authority, as appropriate. Authority: T.C.A. 4-28-120 (providing for hearing examiners to be appointed by the TEA Board or, in the Board's discretion, provided by the Administrative Procedures Division of the Office of the Secretary of State). In cases where the complaint alleges in substance an unfair or deceptive act or practice affecting the conduct of any trade or commerce, the Division of Consumer Affairs of the Tennessee Department of Agriculture shall acquire jurisdiction and proceed against the party against whom the complaint was brought according to state law. (T.C.A. 47-18-102 et seq.) In other cases the Consumer Affairs Division may provide a qualified hearing examiner approved by the TEA Board to conduct redress proceedings and to recommend to the TEA Board the enforcement of TEA rules, or other appropriate action. In cases unrelated to general consumer issues and where, therefore, the Division of Consumer Affairs has no jurisdiction, redress proceedings will be conducted by TEA or by hearing examiners as provided by law. T.C.A. 4-28-120.

The right of action in a State Court shall be available for persons seeking recovery of damages for an injury arising from an activity carried out under the State Plan. The private right to legally enforceable remedies comes into being at the time the wrong is committed, without regard to the State Plan. In the case of injury arising from non-compliance with the State Plan, the right to a remedy would come into being on the finding of non-compliance with an order by the TEA Executive Director for enforcement of the Plan or the rules promulgated thereunder. At that point, the State will seek enforcement on behalf of TEA and

other affected parties in State Chancery Court. T.C.A
4-28-117, 4-28-119, 4-28-120.

9. Training Programs

A. Post Secondary Training Resources for Solar Installers

Chattanooga State Technical Community College
4501 Amnicola Highway
Chattanooga, Tennessee 37406

Cleveland State Community College
Cleveland, Tennessee 37311

Motlow State Community College
Tullahoma, Tennessee 37388

State Technical Institute at Knoxville
3435 Division Street
Knoxville, Tennessee 37919

State Technical Institute at Memphis
5983 Macon Cove
Memphis, Tennessee 38134

B. Secondary Solar Vo-Tech Educational Programs

No secondary solar vo-tech educational programs have been identified.

VIRGINIA

1. Information Programs

Organization

Alexandria Office of Consumer Affairs
Box 178--City Hall
Alexandria, VA 22313
(703) 750-6697

Institute for Ecological Policies
9208 Christopher Street
Fairfax, VA 22031
(202) 393-6700

School of Engineering
Old Dominion University
Norfolk, VA 23508
(804) 489-6485

State Office of Emergency & Energy Services
10 Turner Road
Richmond, VA 23225

Virginia Energy Office
823 East Main Street, Room 300
Richmond, VA 23219
(804) 786-8451

Virginia Solar Council (VSC)
2338 N. 11th Street #302
Arlington, VA 22201
(703) 243-9574

Virginia Solar Energy Association
6620 W. Broad Street
Richmond, VA 23230

Services

films, newsletter, free
brochures, workshops

People & Energy magazine

workshops

newsletter, directories,
audio-visual materials
Toll free hot line
1-800-552-3831

demonstration projects,
workshops, exhibits,
literature

speakers, literature

newsletter

2. State Consumer Protection and Solar Statutes

A. Consumer Protection Statutes

Chapter 777, Laws of 1970: Creation of the Administrator of Consumer Affairs

The position of Administrator of Consumer Affairs is created within the Department of Agriculture and Commerce, for the purpose of promoting consumer education, coordinating consumer activities, receiving complaints of deceptive business practices, and referring

such complaints to the State and local agencies charged with the enforcement of consumer laws. When the matter cannot be settled at the administrative level, then the matter is to be transmitted to the appropriate enforcement officer for legal action. The Administrator of Consumer Affairs is also charged with maintaining permanent records of consumer complaints along with their eventual disposition. The Administrator of Consumer Affairs has no enforcement powers of his own.

Chapter 635, Laws of 1977: Virginia Consumer Protection Act

This Act is designed to promote fair and ethical standards of dealings between suppliers and the consuming public. A number of fraudulent practices, which are prohibited, are enumerated. When a violation of this Act is suspected, the Attorney General, the Commonwealth's attorney or the attorney for a county or city may apply to the circuit court for an investigative order. The contents of such an investigative order are specified. Failure to comply with an investigative order will result in being in contempt of court. Anyone who suffers a loss because of a fraudulent business practice is entitled to initiate proceedings to recover actual damages or \$100, whichever is greater, as well as court costs. The willful violation of any provision of this Act is punishable by a fine of not more than \$1,000 per violation.

Chapter 635, 54-145.3 to 54-145.39: Virginia Contractor Transaction Recovery Act

This Act establishes a fund for the payment of unsatisfied judgements against those persons or legal entities regulated by the State Board of Contractors. The State Board of Contractors is responsible for administering the law.

Title 54, Chapter 7, Code of Virginia, 1950, as amended, 1979: Virginia Contractors' Registration Law

The State Registration Board for Contractors, established within the Department of Commerce, is charged with the responsibility of keeping a roster of registered general contractors and subcontractors. No contracting work may be undertaken without a license issued by the Board. The registration and testing procedure is outlined in detail. A \$50 application fee must accompany the application. Complaints against a contractor may be filed with the Director of the Department of Commerce. An administrative hearing is then conducted or the matter is turned over to the attorney in the county in which the crime took place. Violators of any provision of the subtitle are subject to a fine of \$1,000 for each violation, and the certificate of registration may be either suspended or revoked.

B. Solar Statutes

Property Tax Incentives

Chapter 561, Laws of 1977: Property Tax Exemption for Solar Energy Equipment

Any county, city, or town may either totally or partially exempt from local taxation certified solar energy equipment used for water heating, space heating and cooling, or other applications which would otherwise require the use of petroleum products, natural gas, or electricity. The State Board of Housing is responsible for determining what constitutes a certified solar system for the purpose of the tax exemption, and applications for the exemption are to be made to the Board's local building departments.

The amount of the tax exemption authorized by this Act is determined by applying the local tax rate to the value of the solar equipment and subtracting that amount, either wholly or partially, from the total real property tax due on the property to which the solar equipment is attached.

This tax exemption became effective in 1978 and is authorized until 1982, at which time it can be reinstated.

Chapter 351, Laws of 1979: Energy Conversion Equipment Classified as a Separate Item of Taxation

Under this measure all manufacturer's energy conversion equipment is classified as a type of personal property which is separate and distinct from other tangible personal property. Energy conversion equipment is defined as any generating equipment purchased after December 31, 1974, for the purpose of changing a manufacturing plant's energy source from oil or natural gas to coal, wood, wood bark, wood residue, or any other alternative energy source in order to make it more energy efficient. Co-generation equipment purchased after December 31, 1974, also qualifies as energy conversion equipment.

Any county, city or town may levy a tax on energy conversion equipment at a rate which is different from other classes of personal property. However, the rate and ratio of assessment on energy conversion equipment is not to be greater than the rate and ratio of assessment on machinery and tools.

Solar Access

Chapter 323, Laws of 1978: Virginia Solar Easements Act

A solar easement obtained for the purpose of guaranteeing access to the sun for solar energy equipment, facilities, or devices is subject to the same conveyance and instrument recording requirements as other easements. The solar easement is to include: (1) the vertical and horizontal degree angles at which the solar easement extends over real property subject to the solar easement; (2) terms

under which the easement is granted or is to be terminated; and (3) compensatory provisions for the owner of the property subject to the solar easement.

Grant/Loan Programs

Chapter 431, Laws of 1977: Installation Loans for Energy Saving Devices

The Virginia Housing Authority is authorized to establish a loan program for financing the purchase and installation of solar or other alternative energy sources as well as for insulation, storm windows, and doors. The purpose of these loans is to reduce the state's dependence on present energy sources for use in private, public, and non profit buildings. These loans are interest-bearing and may be either secured or unsecured.

Chapter 731, Laws of 1978: Installation Loans for Energy Saving Devices

This amendment to the 1977 law stipulates that these loans are authorized only for energy-saving devices that are bought for and installed in dwellings occupied by persons or families of low and moderate income.

Other

Chapter 601, Laws of 1977: Virginia Solar Energy Center

This Act creates the Virginia Solar Energy Center as a part of the Virginia Energy Office; an executive state agency. The Solar Energy Center receives non state funds for carrying out its mission, which includes: (1) acting as a clearinghouse to gather, maintain, and disseminate general and technical information on solar energy and its utilization; (2) coordinating solar energy data-gathering programs in the state; (3) coordinating solar energy programs with other state agencies and organizations, other states, and federal agencies; (4) promoting solar energy cooperation among business, industry, and the public; (5) developing public education programs on solar energy for use in schools and by the public; and (6) providing assistance in formulating state-wide policies on the utilization of solar energy.

3. Licensing/Certification

A. State Licensing Agency

State Board for Contractors - licenses building contractors, 2 South 9th Street Richmond, Virginia 23219 (804) 786-2437	plumbers, and heating and air conditioning specialists.
--	--

See Section 2:

- Title 54, Chapter 7, Code of Virginia, 1950, as amended, 1979:
Virginia Contractors' Registration Law

B. RCS Plan: Listing Criteria

The Virginia RCS program will be implemented according to the Federal Standby Plan which is currently being developed by the U.S. Department of Energy.

4. Codes/Standards

A. Residential Codes

Building Code:	Virginia Uniform Statewide Building Code
Reference Code:	BOCA Basic Building Code (1978) 1 & 2 Family Dwelling Code
State Enforcement Agency:	Office of Uniform Building Codes 205 North 4th Street 4th Floor Richmond, VA 23219 (804) 786-5041
Energy Code:	BOCA Basic Building Code (1978); Chapter 20
Reference Code:	ASHRAE 90-75
State Administrative Agency:	Department of Housing & Community Development 205 North 4th Street Richmond, VA 23219 (804) 786-1575
Enforcement Level:	Local level
Comments:	The building code is a statewide one, but is enforced at the local level.

B. RCS Plan: Standards

Certain renewable resource measures installed under the RCS program must adhere to the following installation and materials standards:

<u>Standard</u>	<u>Measure</u>
HUD <u>Intermediate Minimum Property Standards Supplement</u> , Solar Heating and Domestic Hot Water Systems, 4930.2, 1977 Edition.	- Active Solar Domestic Hot Water Systems
	- Thermosiphon Hot

Water Heaters
(excluding IMPS
Section 5-615-1.4.2
and Appendix A)

- Replacement Swimming
Pool Heaters which
employ flat plate
collectors or
nonpotable fluid
- Wind energy devices

RCS Regulation 456.705, published
Federal Register, Vo..44, No. 247,
75966-75969.

C. State Standards

State material and installation standards for solar products have not
been enacted.

5. Testing and Product Certification

Testing and certification of solar products is not required by the state.

6. Audits and Inspections

A+B. The Virginia RCS program will be implemented according to the
Federal Standby Plan which is currently under development by the U.S.
Department of Energy.

C. Residential Code Enforcement

See Section 4.A.

7. Warranties

A. State Warranty Requirements

The state has not enacted specific warranty requirements for solar
products.

B. RCS Plan: Warranty Requirements

All renewable resource measures installed under the RCS program must
be covered by a manufacturer's or contractor's warranty which
certifies that the measure will have a useful life of at least one
year.

8. Consumer Response Systems

A. Organizations Which Are or May Be Involved in Solar Consumer Response Systems

Attorney General's Office
Office of Consumer Affairs
Office of Emergency and Energy Services
Better Business Bureau
Virginia Solar Energy Association
Solar Lobby
Solar Industry

B. RCS Plan: Complaints Processing Procedures

The Virginia RCS program will be implemented according to the Federal Standby Plan which is currently being developed by the U.S. Department of Energy.

9. Training Programs

A. Post Secondary Training Resources for Solar Installers

Old Dominion University
Hampton Boulevard
Norfolk, Virginia 23508

Thomas Nelson Community College
P.O. Box 9407
Hampton, Virginia 23670

Lord Fairfax Community College
P.O. Drawer E
Middletown, Virginia 22645

Northern Virginia Community College
8333 Little River Turnpike
Annandale, Virginia 22003

Southside Virginia Community College
Alberta, Virginia 23868

B. Secondary Solar Vo-Tech Educational Programs

No secondary solar vo-tech educational programs have been identified.

SECTION C
STATE SOLAR CONSUMER PROTECTION
ASSESSMENT INTERVIEWS
FOR FLORIDA

FLORIDA SUMMARY
Solar Consumer Protection State Assessment

During the month of June 1980, the Florida Solar Energy Center interviewed representatives of various consumer-related agencies and solar industry firms in the state. A total of ten representatives of these agencies and firms were interviewed in order to establish a good representation of those involved in aspects of the solar industry. The majority of the interviews were conducted by telephone.

In order to facilitate the use of the questionnaires in the assessment package, it was necessary at times to develop additional "lead in" questions or reword existing questions to make them more Florida-specific and detailed. The additional, or reworded questions which proved the most helpful, are attached.

Consumer protection legislation was documented. Current consumer protection, prevention, referral, reception, investigation, and mediation mechanisms available to the consumer in the event of problems with solar products had to be determined. The appropriate state agencies and selected dealers were also polled in order to determine the major problems encountered by consumers in the solar industry. Possible areas of improvement in the solar industry were also discussed with the respondents of this survey.

A review of the responses reveals the following:

1. A lack of knowledge about the consumer problem, referral, reception, investigation, and mediation process on the part of numerous agencies and private businesses.
2. There seems to be a need for greater publicity of solar products. This would include giving the public an accurate picture of solar energy's

benefits along with general solar technology and consumer information.

3. For the public that seeks out information, the Florida Solar Energy Center was viewed as performing the job expected of it. All respondents indicated the Florida Solar Energy Center was the agency they recommended for those inquiring about solar and the solar industry. *
4. Installation problems were the most common consumer complaints. Installer certification is felt to be an immediate need by the majority of those interviewed. Certification of the installers would assure quality and reliability.
5. The concept of a federally-insured warranty program received a positive response from nearly all those questioned. This would help create consumer confidence in the purchase product and insure consumer protection. The remainder of those polled distrusted government intervention and felt that this would create added expenses for the dealers/manufacturers.
6. Respondents noted that many consumers had misconceptions about the cost-effectiveness of solar products.
7. Complaint mechanisms for solar-related problems were similar to those used for alleviating consumer problems in other industries.

Both the industry and the consumer agencies concur that those consumer-related problems should be remedied in order to facilitate the expansion of the solar industry in the future.

John Harrison July 1, 1980

* See enclosed copies of 1) Turning on the Sun - a consumer guide, 2) Florida Solar Industry Directory, 3) Solar Water Heating - A Question & Answer Primer.

3) Construction inspector

- Thorough? Reliable? Too rigid? Knowledgeable about solar?

3. How do you feel about consumer protection agencies?

Where do customers go with complaints?

Are these complaint mechanisms effective? For customer? For you?

What are your suggestions? Customers must have complaint mechanism or little faith can be established?

How does consumer protection restrict your business? (?)

4. How do most customers become acquainted with your products? (see 2A)

5. Who investigates consumer complaints?

Who mediates?

Effectiveness?

Your thoughts on this matter...

How does it affect you and expansion of solar industry?

6. If unresolved, what legal recourse does consumer have? Does this benefit both parties?

7. Suggest a better method for consumer complaints/protection more suited to solar industry problems.

8. Your input and ideas about legislative actions concerning the following: (re solar industry)

A. Consumer information/education

B. Equipment standards and certification

C. Solar construction licensing

D. Warranties

E. Federally-funded warranty insurance program

F. Inspector training program

G. Installer training program

9. General thoughts on consumer protection in solar based industry..

FLORIDA SOLAR ENERGY CENTER
SOLAR INDUSTRY INTERVIEW QUESTIONNAIRE

1. What are your major consumer problems? Define & rank.

Probe questions:

Consumer knowledge...

Equipment installment & problems resulting...

Consumer upkeep...Is information given for this? Instructions?

What problems do you encounter as a producer/salesman/installer of solar systems?
(in regards to consumers)

Rank the problems...possible remedies?

2. Existing consumer protection mechanisms of following:

A. Consumer education

Who provides it for the consumers?

FSEC? Individual research? You?

Do customers come in with detailed brochures, factsheets, etc?

How many come in without any knowledge of solar products and how they work?

Knowledge of tax credits?

What would you suggest in regards to public education?

B. Warranties

What type of warranty do you provide? Do you know about warranties?

(written, implied, full, limited) Are they adequate?

Which type best suits your business (solar)? Why?

Maintenance instructions provided? Operational?

What about companies that go out of business? (federally-funded insurance programs)

C. Licensing

1) Solar systems themselves

- FSEC certification of models. Effective?

- What are the benefits of this? High quality?

- What are the handicaps?

- Does it impede innovation? Enforces the conventional? (small companies
in specific without other lines)

2) Installation

- Who installs? Trained personnel?

- Should installers be certified, trained, etc. tested?

- Plumbers, electricians, etc.

SSC Name C. A. Beck

Interview Date 6/24/80

Respondent Sue Williamson

Agency/Organization Fla. Consumer Protection
Agency

SCAPA Form B
Public and Private Agency
Response Form

1. State the number and type of solar consumer complaints reported within the past year. Describe how complaints were resolved and indicate agencies/organizations which were involved in the resolution.
Solar complaints average about one (1) per month.
 - 1) Failure of unit to perform.
 - 2) Company did not honor warranty.
 - 3) Under/over sizing and resulting loss in efficiency.
 - 4) Backup system ran too much.
 - 5) Pipes froze.***
2. Define and rank major consumer problems with solar energy.
 - 1) Lack of credibility of the solar industry.
 - 2) Consumers are not convinced about the advantages of solar.
 - 3) Purchasers do not know which dealer to purchase from.
 - 4) Dealers and manufacturers blame each other for installation problems.
 - 5) Building inspectors are not sure about what exactly they should check for.
3. If solar problems are viewed as different from other home improvement/construction industry problems, describe how they differ.

Solar is a relatively new industry. Many solar dealerships/manufacturers have a high rate of failure leaving consumers without warranty service.

4. Description of existing prevention mechanisms.

Florida Solar Energy Center provides solar technical information as well as solar consumer protection information.

Florida Consumer Protection Agency also provides information packets regarding the solar market.

Agencies/Organizations involved: Lead FSEC
 Other Florida Consumer Protection Agency

*** The Florida Consumer Protection Agency advised the consumers to contact the dealer and attempt to resolve the problem at that level. These problems were resolved with discussion between the consumer and the dealer.

5. Complaint referral mechanism description.

Florida Consumer Protection Agency advises consumers to deal with an official of the solar company first after a problem with a solar unit has occurred.

Agencies/Organizations involved:

	Lead	Florida Consumer Protection Agency
	Other	Dealership

6. Complaint Reception Mechanism Description

Agencies/Organizations involved:

	Lead
	Other

7. Investigation Mechanism Description

Florida Consumer Protection Agency obtains from the consumer, warranties, office manuals, repair bills. If necessary, FCPA requests a technically knowledgeable person's opinion regarding the consumer complaint and after careful investigation advises the consumer as to the proper action to be taken.

Agencies/Organizations involved:

Lead	Florida Consumer Protection Agency
Other	Florida Solar Energy Center (for technical information)

8. Mediation Mechanism Description

Majority of problems are resolved in discussions between the consumer and the dealer/manufacturer.

Agencies/Organizations involved:

Lead	Florida Consumer Protection Agency
Other	Dealership/Manufacturer

9. Technical resources employed in investigating solar consumer complaints.

Florida Solar Energy Center

10. Legal Redress Description

- 1) Breach of contract lawsuit.
- 2) If there is a pattern of illegal activities, the state attorney will handle the matter.
- 3) The attorney general handles the case if actions occur in more than one judicial circuit.

Agencies/Organizations involved: Lead
 Other

11. Improvement of Existing Protection Mechanisms (Describe)

Possible areas of needs:

- consumer education/information - The Florida Consumer Protection Agency has available on request information for consumers interested in solar energy products. More information should be given through news articles, television broadcasts, and public information bulletins.
- mandatory equipment standards and certification -

An on-site inspection of solar systems should be incorporated with the building inspection.

- solar contractor licensing -

Licensing would ensure more contractor responsibility. Licenses could be revoked in the event of malpractices.

- warranties -

- Federally funded warranty insurance program - This program would give consumers confidence in their warranties and assurance that solar systems would be serviced in the event of malfunctions.

- installer training programs - A program should be instituted to ensure qualifications and capabilities of "solar" installers.

- changes or additions to existing Federal legislation and regulations -

SS Name C. A. Beck

Interview Group (check one)

XXX Public Agencies
 Private Agencies
 Solar Industry

Jurisdiction Flo

Interview Date 6/24/80

Respondent Sue Williamson

Agency/Org. Florida Consumer
Protection Agency

SCPA Form C
Summary Interview Form

Problems (by rank)

Consumer Protection
Mechanism which
prevents/resolves problem

Implementing
Agencies/Organizations

1. Lack of credibility of
the solar industry.

general information package

Florida Solar Energy Center

2. Consumers not convinced
about advantages of solar.

general information packages
solar information packets

Florida Solar Energy Center
Florida Consumer Protection Agency

3. Choosing a reputable dealer

Florida Solar Industry Directory
Member Referral Program

Florida Solar Energy Center
Better Business Department of
local Chambers of Commerce.

4.

5.

6.

7.

8.

Jurisdiction Florida

SSC Name C. A. Beck

Interview Date 8/4/80

Respondent Bill Kennedy

Agency/Organization GEO

SCAPA Form B
Public and Private Agency
Response Form

1. State the number and type of solar consumer complaints reported within the past year. Describe how complaints were resolved and indicate agencies/organizations which were involved in the resolution.

Most solar-related complaints are sent to the State Solar Contact at the Florida Solar Energy Center. From that point the SSC responds personally or requests help from the FSEC staff.

2. Define and rank major consumer problems with solar energy.
Not enough reported complaints to categorize.

3. If solar problems are viewed as different from other home improvement/construction industry problems, describe how they differ.
Solar problems are not viewed as different from other home improvement or construction problems.

4. Description of existing prevention mechanisms.

1. FSEC standards
2. Testing program
3. Florida Solar Energy Industry Association self policing code of ethics

Agencies/Organizations involved: Lead
 Other

5. Complaint referral mechanism description.

If complaints cannot be handled by GEO, they are routed to the FSEC.

Agencies/Organizations involved: Lead GEO
 Other FSEC

6. Complaint Reception Mechanism Description

Complaints are handled on an individual basis - response is by personal letter or phone call.

Agencies/Organizations involved: Lead
 Other

7. Investigation Mechanism Description

N/A

Agencies/Organizations involved: Lead
 Other

8. Mediation Mechanism Description

N/A

Agencies/Organizations involved: Lead
 Other

Jurisdiction Florida

SSC Name C. A. Beck

Interview Date 7/1/80

Respondent Mr. Mills - Mrs. Symmons

Agency/Organization Better Business Department of
Orlando Chamber of Commerce

SCAPA Form B
Public and Private Agency
Response Form

1. State the number and type of solar consumer complaints reported within the past year. Describe how complaints were resolved and indicate agencies/organizations which were involved in the resolution.

No complaints have been received by this agency.

2. Define and rank major consumer problems with solar energy.

Public misunderstandings/misconceptions and lack of knowledge/information about solar products.

3. If solar problems are viewed as different from other home improvement/construction industry problems, describe how they differ.

Consumers tend to be hesitant about trying a new product especially one they have little information on. Consumer awareness of solar industry is minimal.

4. Description of existing prevention mechanisms.

The Better Business Department refers all questions they receive about solar products to the FSEC.

Agencies/Organizations involved:

Lead	FSEC
Other	

5. Complaint referral mechanism description.

The Better Business Department refers complaints that involve possible commercial fraud to the Florida State Attorney's Consumer Fraud Unit. All other complaints are handled by the Better Business Department.

Agencies/Organizations involved: Lead Better Business Department
 Other Florida State Attorney's Consumer
 Fraud Unit

6. Complaint Reception Mechanism Description

Complaints are received by the Better Business Department. They are registered and investigated.

Agencies/Organizations involved: Lead Better Business Department of Orlando
 Other Chamber of Commerce

7. Investigation Mechanism Description

The Better Business Department investigates the complaints. A letter is sent to the firm informing them about the nature of the complaint and asking for their statement. An attempt is made at this point to resolve the problem between the consumer and the dealer.

Agencies/Organizations involved: Lead Better Business Department of Orlando
 Other Chamber of Commerce

8. Mediation Mechanism Description

The Better Business Department can establish, with the approval of both parties, an arbitration committee which reviews, investigates and resolves the complaint.

Agencies/Organizations involved: Lead
 Other

9. Technical resources employed in investigating solar consumer complaints.

None specified other than review by the Better Business Department's Arbitration Committee.

10. Legal Redress Description

The Better Business Department's Arbitration Committee has, by law, the same authority and powers of a small claims court.

Agencies/Organizations involved:	Lead	Better Business Department's
	Other	Arbitration Committee

11. Improvement of Existing Protection Mechanisms (Describe)

Possible areas of needs:

- consumer education/information -

More information about solar needs to be presented to the public via various communication channels.

- mandatory equipment standards and certification -

- solar contractor licensing -

- warranties -

Since most warranties at the present are limited warranties, it is imperative that the terms of such warranties be clearly outlined.

- Federally funded warranty insurance program -

- installer training programs -

- changes or additions to existing Federal legislation and regulations -

SSC Name C. A. Beck

Interview Group (check one)

 Public Agencies
xxx Private Agencies
 Solar Industry

SCPA Form C
Summary Interview Form

Jurisdiction Florida

Interview Date 7/1/80

Respondent Mr. Mills - Mrs. Symmes

Agency/Org. Better Business Dept.
of Orlando Chamber of
Commerce

Problems (by rank)

Consumer Protection
Mechanism which
prevents/resolves problem

Implementing
Agencies/Organizations

1. Public misunderstanding/
misconceptions and lack of
knowledge about solar products.

general information
package

Florida Solar Energy Center

2.

3.

4.

5.

6.

7.

8.

Jurisdiction Florida

SSC Name C. A. Beck

Interview Date 6/23/80

Respondent Shirley Hayes

Agency/Organization Fla. Solar Energy Industries Association

SCAPA Form B
Public and Private Agency
Response Form

1. State the number and type of solar consumer complaints reported within the past year. Describe how complaints were resolved and indicate agencies/organizations which were involved in the resolution.

Association does not deal with consumer complaints. They have set up an ethics committee that will record complaints in the future. Consumer complaints are sent to the Division of Consumer Services.

2. Define and rank major consumer problems with solar energy.

- 1) Ethical standards must be established by solar dealers.
- 2) Installers must be certified. A top priority.

3. If solar problems are viewed as different from other home improvement/construction industry problems, describe how they differ.

The owners of solar units do not generally understand them, resulting in many misconceptions. Technical information regarding mechanisms of solar collectors/systems must be simplified. Consumers should not be technically intimidated.

- #### 4. Description of existing prevention mechanisms.

Work with respectable firms and use standard methods of investigating a product.

Agencies/Organizations involved:

Lead	Florida Solar Energy Center
Other	Better Business Bureaus , Consumer protection agencies

5. Complaint referral mechanism description.

Division of Consumer Services

Agencies/Organizations involved: Lead
 Other

6. Complaint Reception Mechanism Description

Agencies/Organizations involved: Lead
 Other

7. Investigation Mechanism Description

Agencies/Organizations involved: Lead
 Other

8. Mediation Mechanism Description

Agencies/Organizations involved: Lead
 Other

9. Technical resources employed in investigating solar consumer complaints.

10. Legal Redress Description

Agencies/Organizations involved:

Lead
Other

11. Improvement of Existing Protection Mechanisms (Describe)

Possible areas of needs:

- consumer education/information -
De-mystify the solar industry. Course attendance and research should not be prerequisites for purchasing solar products.
- mandatory equipment standards and certification -
Interviewed party felt that the FSEC certification program of solar water heaters was effective.
- solar contractor licensing -
- warranties -
- Federally funded warranty insurance program -
- installer training programs - This should be a first priority. Installers must have a knowledge of solar technology, solar unit installation and be licensed.
- changes or additions to existing Federal legislation and regulations -
Construction inspectors must receive some type of training in solar unit installation. Current inspectors fluctuate from being uninformed about proper procedures of solar installation to being too rigid in...

SSC Name C. A. Beck

Interview Group (check one)

 Public Agencies
XXX Private Agencies
 Solar Industry

Jurisdiction Florida

Interview Date 6/23/80

Respondent Shirley Hayes

Agency/Org. Florida Solar Energy
Industries Association

SCPA Form C
Summary Interview Form

Problems (by rank)

Consumer Protection
Mechanism which
prevents/resolves problem

Implementing
Agencies/Organizations

1. Installer certification to
insure quality installation.

future installation certi-
fication

Trade Licensing Board

2.

3.

4.

5.

6.

7.

8.

Jurisdiction Florida

SSC Name C. A. Beck

Interview Date 6/25/80

Respondent Jerry Liverette

Agency/Organization Northeast Florida Solar Energy Association

SCAPA Form B
Public and Private Agency
Response Form

1. State the number and type of solar consumer complaints reported within the past year. Describe how complaints were resolved and indicate agencies/organizations which were involved in the resolution.

NFSEA did not receive any consumer complaints although they had advertised in the media that they were consumer oriented.

2. Define and rank major consumer problems with solar energy.

- 1) Lack of trust in installers by the consumers.
- 2) Warranties should be well defined.

3. If solar problems are viewed as different from other home improvement/construction industry problems, describe how they differ.

Dealerships that are unstable could present problems for consumers.
Improper installation of solar technology due to unlicensed installers.

- #### 4. Description of existing prevention mechanisms.

Florida Solar Energy Center - provides consumer education about solar hot water systems.

Federal 800 telephone number on solar information (NSHCIC).

Advertising and articles in local newspapers.

Agencies/Organizations involved:

	Lead	FSEC
	Other	

5. Complaint referral mechanism description.

- 1) Dealerships
- 2) Better Business Bureau, Consumer Protection Agency.
- 3) Newspaper Hot Line.

Agencies/Organizations involved: Lead
 Other

6. Complaint Reception Mechanism Description

Agencies/Organizations involved: Lead
 Other

7. Investigation Mechanism Description

Agencies/Organizations involved: Lead
 Other

8. Mediation Mechanism Description

Agencies/Organizations involved: Lead
 Other

Dealership would have the resource to handle this. Consumer Protection Agency would have to hire technical experts to investigate certain mechanical areas.

Similar to that applicable to other industries/businesses.

11. Improvement of Existing Protection Mechanisms (Describe)

Public must be given more information via television, radio and newspaper.

Quality standards and certification are felt to be excellent yet the excessive cost of testing limits the small manufacturer and impedes innovation. The testing cost should be lowered and/or cost of testing subsidized by government

funds.

As previously stated, warranties should be well defined. Solar panels as well as electrical controls and pipes should be warranted for a specific time period.

This would increase consumer confidence in the product.

- installer training programs - Installers need to be licensed. Mr. Liverette feels that unlicensed installers create a lack of trust by the public in solar products. A solar apprenticeship program should be instituted. A "solar license" would **

Tax credits should be advertised and explained to the public.

** be necessary for the installation and repair of solar equipment.

SSC name C. A. Beck

Interview Group (check one)

 Public Agencies
xxx Private Agencies
 Solar Industry

Jurisdiction Florida

Interview Date 6/25/80

Respondent Jerry Liverette

Agency/Org. NE Florida Solar
Energy Association

SCPA Form C
Summary Interview Form

<u>Problems (by rank)</u>	<u>Consumer Protection Mechanism which prevents/resolves problem</u>	<u>Implementing Agencies/Organizations</u>
1. Lack of trust in installers by the consumer.	Florida Solar Industry Directory Future Installer Certification	Florida Solar Energy Center Trade Licensing Board
2. Warranty specifications	general information package	Florida Solar Energy Center
3.		
4.		
5.		
6.		
7.		
8.		

5. Complaint referral mechanism description.

Similar to other industries.

Agencies/Organizations involved: Lead
 Other

6. Complaint Reception Mechanism Description

Agencies/Organizations involved: Lead
 Other

7. Investigation Mechanism Description

Agencies/Organizations involved: Lead
 Other

8. Mediation Mechanism Description

Agencies/Organizations involved: Lead
 Other

9. Technical resources employed in investigating solar consumer complaints.

10. Legal Redress Description

Agencies/Organizations involved: Lead
 Other

11. Improvement of Existing Protection Mechanisms (Describe)

A "Solar Industry Watchdog Outfit" needs to be established. Such an organization would: a) provide a statement of promises regarding the solar products; b) show of faith toward industry and consumers; c) follow up consumer complaints and police themselves; d) create a positive organization of solar dealers responsive to consumer demands and problems.

Possible areas of needs:

- consumer education/information - A positive picture of solar applications must be propagandized. Solar use should be made more fashionable and current.
- mandatory equipment standards and certification - Quality control and certification of products are necessary. The cost of this testing should be reformed. Testing costs should be lowered for small companies to help these companies obtain a foothold in the market. Funding arrangements such (OVER)
- solar contractor licensing -
- warranties - Will have to be well defined.
- Federally funded warranty insurance program - Such a program would reassure the public.
- installer training programs - A training course leading to a "solar license" should be initiated. This would ensure proper and knowledgeable installation of solar units and less consumer complaints.
- changes or additions to existing Federal legislation and regulations - Construction inspectors should receive formal training in solar installation and application. An on-site checklist should be provided for these inspectors. This action would also assure proper installation and reduce consumer complaints.

SSC name C. A. Beck

Interview Group (check one)

 Public Agencies
xxx Private Agencies
 Solar Industry

Jurisdiction Florida

Interview Date 6/19/80

Respondent Bill Partington

Agency/Org. Florida Solar Coalition

SCPA Form C
Summary Interview Form

Problems (by rank)

Consumer Protection
Mechanism which
prevents/resolves problem

Implementing
Agencies/Organizations

1. Consumers do not know
which dealer to choose

Florida Solar Industry Directory
member referral program

Florida Solar Energy Center
Better Business Department
of local Chambers of Commerce

2. Warranty information

general information package
information bulletin

Florida Solar Energy Center
Solar Coalition

3.

4.

5.

6.

7.

8.

Jurisdiction Florida

SSC Name C. A. Beck

Interview Date 6/24/80

Respondent Jan Ball

Agency/Organization Fla. Home Builders Association

SCAPA Form B
Public and Private Agency
Response Form

1. State the number and type of solar consumer complaints reported within the past year. Describe how complaints were resolved and indicate agencies/organizations which were involved in the resolution.

This association has received approximately 10 solar-related complaints over the past 5 yrs. These involved 1) improper installation of solar hot water system, 2) malfunction of solar hot water system, 3) installation of solar hot water system never completed by contractor. Association's Home Owners Warranty Association investigated the complaints and resolved them.

2. Define and rank major consumer problems with solar energy.
 - 1) Improper installation of solar product.
 - 2) Public is misinformed about cost-effectiveness of solar hot water systems.
3. If solar problems are viewed as different from other home improvement/construction industry problems, describe how they differ.

Respondent felt that solar problems were no different from other construction-related problems.

4. Description of existing prevention mechanisms.

Local offices of the Home Builders Association advise consumers as to which builder/contractor they should contact in order to purchase/install solar-related products.

Agencies/Organizations involved: Lead Home Builders Association local offices
Other

5. Complaint referral mechanism description.

Consumer could contact the above mentioned Home Owner Warranty Association, the Better Business Bureau, the local Chamber of Commerce, and State Consumer Complaint Offices.

Agencies/Organizations involved: Lead
 Other

6. Complaint Reception Mechanism Description

Agencies/Organizations involved: Lead
 Other

7. Investigation Mechanism Description

Home Owners Warranty Association - 1) Consumer files a complaint with the association 2) Association convenes to look at the problem 3) Association directs the builder to take proper corrective action.

Agencies/Organizations involved: Lead
 Other

8. Mediation Mechanism Description

As stated in #7.

Agencies/Organizations involved: Lead
 Other

SSC Name C. A. Beck

Interview Group (check one)

☐ Public Agencies
☒ Private Agencies
☐ Solar Industry

Jurisdiction Florida

Interview Date 6/24/80

Respondent Jan Ball

Agency/Org. Fla. Home Builders Assoc

SCPA Form C
Summary Interview Form

<u>Problems (by rank)</u>	<u>Consumer Protection Mechanism which prevents/resolves problem</u>	<u>Implementing Agencies/Organizations</u>
1. Improper installation	Installation Workshops	Florida Solar Energy Center
2. Public misinformation about cost-effectiveness of solar water heating.	general information package	Florida Solar Energy Center
3.		
4.		
5.		
6.		
7.		
8.		

Jurisdiction Florida

SSC Name C. A. Beck

Interview Date 6/23/80

Respondent Enos Schera Jr.

Agency/Organization Florida Solar Users Network

SCAPA Form B
Public and Private Agency
Response Form

1. State the number and type of solar consumer complaints reported within the past year. Describe how complaints were resolved and indicate agencies/organizations which were involved in the resolution.

This agency does not register consumer complaints.

2. Define and rank major consumer problems with solar energy.
 - 1) Cost of solar units are prohibitive for many consumers.
 - 2) Quality of installers must be insured through testing.
 - 3) Warranties that become invalid due to bankruptcy of manufacturer.
 - 4) Builders don't push solar water heaters due to cost factors.
3. If solar problems are viewed as different from other home improvement/construction industry problems, describe how they differ.

Solar problems do not differ greatly from those encountered in other commercial enterprises.

4. Description of existing prevention mechanisms.

Florida Solar Energy Center
Dade County Consumer Advocates Office
Local telephone HELP line.
Local newspaper.

Agencies/Organizations involved: Lead
 Other

5. Complaint referral mechanism description.

Dade County Consumer Advocates Office
Better Business Bureau

Agencies/Organizations involved: Lead
 Other

6. Complaint Reception Mechanism Description

Agencies/Organizations involved: Lead
 Other

7. Investigation Mechanism Description

Agencies/Organizations involved: Lead
 Other

8. Mediation Mechanism Description

Agencies/Organizations involved: Lead
 Other

9. Technical resources employed in investigating solar consumer complaints.

10. Legal Redress Description

Small Claims Court

Agencies/Organizations involved: Lead
 Other

11. Improvement of Existing Protection Mechanisms (Describe)

Possible areas of needs:

- consumer education/information -
Inserts on solar energy--products--consumer problems should be included in major newspapers.
- mandatory equipment standards and certification -
Local testing stations should be established. Universities could set up testing programs. Cost of testing should be reduced.
- solar contractor licensing -
- warranties -
Should be similar to those in other businesses.
- Federally funded warranty insurance program -
Greater confidence in the solar industry would result from this action
- installer training programs -
- changes or additions to existing Federal legislation and regulations -

SSC name C. A. Beck

Interview Group (check one)

 Public Agencies
XXX Private Agencies
 Solar Industry

Jurisdiction Florida

Interview Date 6/23/80

Respondent Enos Schera

Agency/Org. Florida Solar Users
Network

SCPA Form C
Summary Interview Form

<u>Problems (by rank)</u>	<u>Consumer Protection Mechanism which prevents/resolves problem</u>
1. Cost of solar units	information bulletins
2. Quality of installers	Member Referral Program
	Installation Workshops
3. Warranty specifications.	general information package
4.	
5.	
6.	
7.	
8.	

Implementing
Agencies/Organizations

Florida Solar Users Network

Better Business Department of
local Chambers of Commerce
Florida Solar Energy Center
Florida Solar Energy Center

Jurisdiction Florida

SSC Name C. A. Beck

Interview Date 6/24/80

Respondent Ed Glenn

Agency/Organization Horizon Enterprises/Florida Solar Energy Industries Association

SCPA Form D
Solar Industry
Response Form

1. Define and Rank Problems

- 1) Malfunctions of other dealers systems.
- 2) Improper installation of solar units.
- 3) Consumers do not want to pay for a larger solar hot water system resulting in a less-efficient unit.

2. Consumer protection mechanisms and effectiveness. (Describe)

- 1) Consumer education - FSEC is doing an admirable job of educating the solar customer. Various consumer protection agencies also serve consumer needs.
- 2) Certification of collectors - Insures quality reliability of collectors.

3. Role of Consumer Protection in marketing products.

Consumer protection insures that consumers will avoid many of the initial problems associated with a relatively "new" industry. Consumer protection along with consumer education serves to educate the public about the technical aspects, warranties, solar contracts, and financing of solar units.

4. Information mechanisms. (Describe)

The FSEC provides consumers with a consumer guide to solar hot water heaters as well as an industry directory.

Agencies/Organizations involved:

Florida Solar Energy Center

5. Referral Mechanisms (Describe)

Various agencies deal with consumer problems and can advise consumers.

Agencies/Organizations involved:

Better Business Bureau, Florida Consumer Protection Agency, Dade County Consumer Agencies, Florida Solar Energy Industries Association

6. Complaint Process (Describe)

According to the individual interviewed, consumers should always initiate the complaint process with the dealer. It was felt that the majority of problems are resolved at this stage. If problem is not remedied to the consumer's satisfaction at this level, the agencies listed below could be contacted.

Agencies/Organizations involved:

Florida Consumer Protection Agency, Dade County Consumer Protection Agencies.

7. Investigation Process (Describe)

Agencies/Organizations involved:

8. Mediation Process (Describe)

Agencies/Organizations involved:

9. Form of Legal Redress Available (Describe):

Agencies/Organizations involved:

Florida Consumer Protection Agency
Florida attorney general
Private attorney

10. Improvement of Existing Protection Mechanism (Describe):

See items listed below.

Possible areas of need:

- consumer education/information - Public consciousness toward solar energy must be positively influenced. Respondent's association will be propagandizing solar as well as advising consumers. The federal government must assume a greater responsibility in this area.
- mandatory equipment standards and certification - Certification of solar collectors by FSEC is a good program. Equipment standards help build consumer confidence yet in itself does not necessarily insure consumer protection due to installation and other problems incurred with solar units.
- solar contractor licensing -
Licensing of solar contractors is urgently needed to upgrade and insure the quality of dealers.
- warranties -
Warranties are as good as the dealer who backs them.
- Federally funded warranty insurance program - Federal government should not get involved in a warranty program. This would only create an added burden for businessmen.
- installer training programs -
A written and on-site installation/maintenance test is needed to insure that installers are qualified and knowledgeable in installation and maintenance of solar water heaters. * Continued below...
- changes or additions to existing Federal legislation and regulation -

* Successful completion of a training program and/or on-the-job experience along with a satisfactory score on the test would merit a solar installer license.

SSC Name C. A. Beck

Interview Group (check one)

 Public Agencies
XXX Private Agencies
 Solar Industry

Jurisdiction Florida

Interview Date 6/24/80

Respondent Ed Glenn

Agency/Org. Florida Solar Energy
Industries Assoc.
Horizon Enterprises

SCPA Form C
Summary Interview Form

<u>Problems (by rank)</u>	<u>Consumer Protection</u> <u>Mechanism which</u> <u>prevents/resolves problem</u>	<u>Implementing</u> <u>Agencies/Organizations</u>
1. Malfunction of solar hot water systems	consultation with dealer/installer mediation to resolve problem if needed	dealer Florida Consumer Protection Agency Better Business Dept. of Chamber of Commerce
2. Improper installation of solar units	future solar installers license	Trade Licensing Board
3. Customer inability to afford larger, more efficient solar hot water system.	general information package	Florida Solar Energy Center
4.		
5.		
6.		
7.		
8.		

Jurisdiction Florida

SSC Name C. A. Beck

Interview Date 6/18/80

Respondent Dick Goss

Agency/Organization Sun-Line Solar

SCPA Form D
Solar Industry
Response Form

1. Define and Rank Problems

- 1) Consumer's lack of knowledge. 65-75% have no familiarity with solar.
- 2) Mechanical failure of controllers and sensors.
- 3) Post installation instruction brochures are either too detailed or too simplistic.

2. Consumer protection mechanisms and effectiveness. (Describe)

- 1) Consumer education provided by local university seminars/programs. Dealer directs possible consumer to past customers to insure dealer reliability.
- 2) Dealer provides a standard 1 yr warranty for labor. His products have a 1-5 yr. warranty on parts. Warranties are written and specific. A lengthy service policy is available at additional cost. A manufacturer's "maintenance sheet" is provided for owner.
- 3) Solar water heater collectors are certified by FSEC to insure quality and

3. Role of Consumer Protection in marketing products, reliability of model tested.

Mr. Goss acknowledges that consumer protection in the solar industry helps create a consumer confidence in such industry. Solar industry consumer problems can be resolved in a fashion similar to consumer problems in other industries.

4. Information mechanisms. (Describe)

Dealer provides on the spot information. FSEC provides consumer and technical information for those investigating the field. Local university also provides solar information through seminars.

Agencies/Organizations involved:

Dealer

Florida Solar Energy Center

University of West Florida - Pensacola

5. Referral Mechanisms (Describe)

Mr. Goss maintains that he handles and resolves all problems at the dealership level.

Agencies/Organizations involved:

6. Complaint Process (Describe)

Dealer acknowledged Better Business Bureau, State Consumer Protection Agencies.

Agencies/Organizations involved:

7. Investigation Process (Describe)

Consumer Protection Agencies.

Agencies/Organizations involved:

8. Mediation Process (Describe)

Dealership confers with customer and attempts to resolve the problem.

Agencies/Organizations involved:

9. Form of Legal Redress Available (Describe):

Agencies/Organizations involved:

10. Improvement of Existing Protection Mechanism (Describe):

Other than changes/suggestions listed below, dealer contends that existing mechanisms are adequate.

Possible areas of need:

- consumer education/information -
Dealer feels that the public's lack of information and misconceptions about the solar industry must be eliminated through broad and aggressive educational programs. Federal and state funds should aid this process.
- mandatory equipment standards and certification -
FSEC program of collector testing and certification is very effective.
- solar contractor licensing -
Coordination of building permits between city, county, state would prevent an overlap of jurisdiction and simplify the licensing process for the solar dealer/installer.
- warranties -
Written warranties should be provided. Extended warranties are beneficial to consumer and dealer.
- Federally funded warranty insurance program -
Dealer favors this type of warranty assurance program.
- installer training programs -
Installer training programs would insure that installer was familiar with all aspects (i.e., plumbing, electrical, carpentry, etc.) of solar water heater system installation.
- changes or additions to existing Federal legislation and regulation -
A federally-backed method of public solar financing should be implemented to compliment federal tax credits and also to make solar units available to those in the middle and lower income brackets.

SSC name C. A. Beck

Interview Group (check one)

☐ Public Agencies
☐ Private Agencies
☒ Solar Industry

Jurisdiction Florida

Interview Date 6/18/80

Respondent Dick Goss

Agency/Org. Sun-Line Solar

SCPA Form C
Summary Interview Form

<u>Problems (by rank)</u>	<u>Consumer Protection Mechanism which prevents/resolves problem</u>	<u>Implementing Agencies/Organizations</u>
1. Lack of consumer knowledge	information given by dealer general information package	solar dealers: Florida Solar Energy Center
2. Mechanical failure of controllers and sensors	consultation with dealer mediation to correct problem	Solar dealer/manufacturer Florida Consumer Protection Agency Better Business Dept. of local Chambers of Commerce
3. Post-installation instruction brochures need improvement, too detailed or too simplistic.	dealer/manufacturer explanations	dealer/manufacturer
4.		
5.		
6.		
7.		
8.		

SSC Name C. A. Beck

Interview Date 6/19/80

Respondent Aulton Autry

Agency/Organization Solar Energy Components

SCPA Form D
Solar Industry
Response Form

1. Define and Rank Problems

- 1) Mechanical failures. valves. 1 out of 10 failed.
- 2) Lack of knowledge about solar on the part of the consumer.
- 3) False conceptions about solar energy products by the public: a) actual amount of electrical savings; b) how much hot water can be produced; c) how often solar DHW system can be in use.
- 4) Installation problems. Majority of these due to individual installer's mistakes.

2. Consumer protection mechanisms and effectiveness. (Describe)

Warranties used by this manufacturer are well defined and provide consumer with adequate coverage. FSEC provides consumer information upon request for consumers inquiring into solar energy, specifically DHW. Consumer education is also given to consumers by the Better Business Bureau, consumer complaint agencies, as well as from neighbors and acquaintances with familiarity w/solar products and solar dealerships. Construction inspectors are felt to be capable, yet have only a limited knowledge of solar technology.

3. Role of Consumer Protection in marketing products.

This manufacturer/dealer feels very strongly that members of the solar industry are very capable of policing themselves. Interestingly, Mr. Autry stated that some manufacturers initially have to sell to "unscrupulous" dealers in order to survive, but feels that as the manufacturer's sales increase, manufacturers will stop dealing with those "unscrupulous" dealers.

4. Information mechanisms. (Describe)

Consumer information can be obtained from the dealer, Florida Solar Energy Center, Better Business Bureaus, state consumer protection agencies and various consumer advocate groups.

Agencies/Organizations involved:

5. Referral Mechanisms (Describe)

Agencies/Organizations involved:

6. Complaint Process (Describe)

Consumer should first consult with the dealer/manufacturer. If problem is not resolved, consumer can then pursue his claim through the state consumer protection agency.

Agencies/Organizations involved:

7. Investigation Process (Describe)

Agencies/Organizations involved:

8. Mediation Process (Describe)

Agencies/Organizations involved:

9. Form of Legal Redress Available (Describe):

Consumer may take his case to a consumer protection agency, small claims court and/or a private attorney.

Agencies/Organizations involved:

10. Improvement of Existing Protection Mechanism (Describe):

The manufacturer interviewed was of the opinion that consumer complaints could be resolved by a consumer-dealer arrangement.

Possible areas of need:

- consumer education/information -

Federal government should do more to advertise "solar" as well as consumer protection in the solar industry.

- mandatory equipment standards and certification -

Quality control and certification of solar collectors are positive steps in achieving consumer confidence toward solar energy. Unfortunately, the excessive testing costs restrict manufacturer innovation. Such cost should be reduced. *

- solar contractor licensing -

- warranties -

The manufacturer felt that warranties installed in new houses should start at installation and not when the home is sold. This issue could create misunderstanding between the manufacturer and the consumer.

- Federally funded warranty insurance program -

A federally-funded warranty insurance program would ensure that consumers were left with warranty coverage in the event that a manufacturer went out of business. In the event that a vendor should discontinue his business, **

- installer training programs -

A method of testing solar system installers needs to be implemented. The test should include a written portion as well as an on-site installation examination. Installation should be performed by someone affiliated with solar ***

- changes or additions to existing Federal legislation and regulation -

* A method of financing testing would also help alleviate the capital outlay incurred by manufacturers.

** then this manufacturer has stipulated in his guarantee that the service for his product would be passed on to another vendor and that this new vendor would be compensated for services.

*** industry, not piecemeal by plumbers, electricians, carpenters, etc.

SSC name C. A. Beck

Interview Group (check one)

☐ Public Agencies

☐ Private Agencies

☒ Solar Industry

Jurisdiction Florida

Interview Date 6/19/80

Respondent Aulton Autry

Agency/Org. Solar Energy Components

SCPA Form C
Summary Interview Form

<u>Problems (by rank)</u>	<u>Consumer Protection Mechanism which prevents/resolves problem</u>	<u>Implementing Agencies/Organizations</u>
1. Mechanical (valves) failure	present problem to dealer obtain mediating agent	dealer/manufacturer Florida Consumer Protection Agency Better Business Dept. of Chamber of Commerce solar dealers Florida Solar Energy Center
2. Lack of knowledge about solar on the part of the consumer	information obtained from dealer general information package	Florida Solar Energy Center
3. False conceptions about solar energy products by the public	general information package	Florida Solar Energy Center
4. Installation problems	future installer certification Installation Workshops	Trade Licensing Board Florida Solar Energy Center
5.		
6.		
7.		
8.		

SECTION D
STATE SOLCAN MEETING
PARTICIPANTS

FLORIDA SOLCAN MEETING
JANUARY 23, 1981

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GEORGIA SOLCAN MEETING
JANUARY 28, 1981

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NORTH CAROLINA SOLCAN MEETING
JANUARY 29, 1981

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SOUTH CAROLINA SOLCAN MEETING
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SECTION E
STATE SOLCAN MEETING SUMMARIES

SUMMARY OF RESULTS
FLORIDA SOLCAN MEETING
JANUARY 23, 1981

LIST OF INCENTIVES, CONSUMER ASSURANCE MECHANISMS, AND
SOLAR PROGRAMS REVIEWED

Federal

Solar Energy and Energy Conservation Bank
Federal Income Tax Energy Credit

State

Sales Tax Exemption for Solar, 1979
Solar Easements Law, 1978
Solar Water Heating for New Single-Family Construction, 1974
Life Cycle Costs Law, 1974
Life Cycle Costs Law, 1978
Florida Solar Energy Center
Solar Energy Standards Act, 1976 and 1978
Solar Energy in Educational Facilities, 1978
Solar Easements Law, 1978
Solar Information Programs
Deceptive and Unfair Practices Law
Consumer Finance Act
Home Solicitation Sales Law
Construction Industry Licensing Board
Standard Building Code - SBCC
Residential Conservation Service
 Listing and Delisting Suppliers and Installers
 HUD IMP Standards
 Testing and Certification by FSEC
 Energy Audits
 One-Year Warranty
 Post-Installation Inspections
 Conciliation Conference
 Redress Procedures
Solar Training Programs

OPPORTUNITIES FOR COOPERATION AND ACTION

Common Scale for Measuring Residential Energy Efficiency

The Florida Model Energy Efficiency Code requires that new detached residential dwellings must score below 100 points on a scale devised to measure the house's energy efficiency. This is to make it possible for consumers to compare houses when making a purchase decision. It was suggested that the effectiveness of this scale could be significantly increased if it were extended to cover existing housing through the RCS program. A sub-routine added to the computer program for the RCS home audit would provide a method of establishing a common notation of residential energy efficiency throughout the state on the 100 point scale.

ACTION: Mr. Hank Erickson of the Governor's Energy Office is going to explore the possibilities and work with FSEC to attempt adoption.

Wider Dissemination of RCS Listing Information

The Consumer Affairs Office responsible for developing the RCS listing of installers and suppliers welcomed any assistance in contacting eligible businesses.

ACTION: Representatives of the Florida Solar Coalition, FSEC, and the Industry Association agreed to follow up on current efforts and help in further publicity.

Reconciliation of Current Building Permit Practices, RCS Requirements and Consumer Assurance

Florida law requires that all solar systems be installed by licensed contractors with appropriate permits, which may include plumbing, electrical, and structural or mechanical. Commonly held opinion supported by FSEC surveys indicates that due to vagaries of local building code enforcement and the fact that many solar installers are not licensed plumbers or electricians, the vast majority of solar installations are done without permits.

Listing under the RCS program requires that the installer sign an agreement to abide by all federal, state, and local laws. Noncompliance with any of these laws could be cause for delisting. Further, the Florida RCS plan requires inspection of all DHW solar systems by local building inspectors.

What emerges is a scenario whereby an informal current practice of nonpermit installations will come in conflict with RCS requirements, thus resulting in a deceleration of solar market penetration. Further compounding this problem is the reported lack of familiarity of building inspectors with solar installations. The group agreed this question of building codes, building permits, and building inspector training was complex and that no immediate resolution was possible.

ACTION: The RCS staff, the Governor's Energy Office, and the Florida Solar Energy Industry Association representative agreed that further discussion of this issue might be useful. Mr. Greg Ballanger of the Solar Coalition agreed to contact the Tallahassee area utility to get a utility perspective on the question.

State Solar Licensing of Contractors

Discussion of an issue related to building permits focused on installer licensing. Although a solar installer, like all businesses, is required to have a license to do business, referred to in Florida as an occupational license, this license is only a fee and not a certificate of competence. There is at present nothing comparable to a plumbing license or electrical license which requires passing a test for persons in the solar installation trade. Several individual participants in the discussion personally advocated a separate state license for solar installers or at least a single solar building permit which could be "pulled" by a general contractor.

ACTION: The Solar Energy Industry Association volunteered to present to appropriate parties a resolution from its board in support of state solar licensing.

Education and Publicity for the Federal Conservation and Solar Bank

A discussion of the bank revealed a need for educating the lending institutions in Florida about the opportunities that may be available to them. The group also discussed the possibility of nontraditional lending institutions, who are eligible under the law, applying for blocks of funds.

ACTION: Ms. Colleen Kettles of the FSEC agreed to contact state agencies such as the housing authority as well as associations representing the banking profession.

Extension of the Life Cycle Cost Law

The law requires that life-cycle costing be applied to state buildings. Consideration will be given by the Governor's Energy Office to introducing a modification of the law at this session of the state legislature, which would extend compliance to all publicly funded buildings, such as schools, town halls, etc. At the same time, the methodology will be amended to emphasize cooling and shading.

ACTION: The availability of the life-cycle costing computer program will be made known by the Governor's Energy Office to various agency heads faced with construction needs, such as local governments and the state prison system.

General RCS Coordination

Numerous opportunities for productive coordination of various parts of the RCS program surfaced throughout the day.

ACTION: Ms. Vicki Raison of the PSC indicated she would be willing to foster joint efforts among the Office of Consumer Affairs, the Board of Licensing, FSEC, and the PSC.

Coordination of Solar Information Programs

Each of the represented agencies had underway or has planned extensive information programs.

ACTION: Ms. Janeth Campbell of the Governor's Energy Office assumed responsibility for fostering consistency among publications and avoiding duplication of effort. This offer was particularly welcomed by representatives of the Consumer Affairs Office and the PSC.

Expanded Publicity on Solar Tax Incentives

Discussion participants noted that public knowledge of solar tax incentives is still limited.

ACTION: The FSEC is considering a mailing to inform tax return preparers, and the representative of the Governor's Energy Office also volunteered to investigate other avenues. Tax incentives for industrial users was also identified as an area in need of publicity. The FSEC volunteered to work with the Energy Extension Service on this issue.

Clarification of Solar Energy in Educational Facilities Law

Discussion revealed that the intent of this law may not be understood by local school officials, because instances of noncompliance are common knowledge.

ACTION: Mr. Hank Erickson agreed to investigate whether a program to inform local school boards would be feasible.

Clarification of the Solar Water Heating Equipment Pre-Plumbing Law

No single-family residence is to be constructed in Florida unless its plumbing system is designed to facilitate the future installation of solar water-heating equipment. The purpose of this law is to minimize the cost of rearranging the plumbing should solar water heaters be added to buildings.

Discussion revealed that various officials around the state interpret the law in widely different ways, with some accepting simple capped "T" fittings off the hot water tank, while others require stubs penetrating the roof.

ACTION: Mr. Erickson of the Governor's Energy Office volunteered to try to facilitate a guideline to issue to all building inspectors. This would be undertaken in conjunction with the appropriate state agencies.

SUMMARY OF RESULTS
GEORGIA SOLCAN MEETING
JANUARY 28, 1981

LIST OF INCENTIVES, CONSUMER ASSURANCE MECHANISMS,
AND SOLAR PROGRAMS REVIEWED

Federal

Solar Energy and Energy Conservation Bank
Federal Income Tax Energy Credit

State

Property Tax Exemption, 1976
Solar Sales Tax Exemption, 1976
Solar Easements Law, 1978
Solar Information Programs
Fair Business Practice Act, 1975
Business Opportunity Act, 1980
Georgia State Building Code
Georgia State Energy Code
Residential Conservation Service
 Listing and Delisting Suppliers and Installers
 HUD IMP Standards
 Energy Audits
 One-Year Warranty
 Post-Installation Inspections
 Conciliation Conference
 Redress Procedures
Solar Training Programs

OPPORTUNITIES FOR COOPERATION AND ACTION

Review and Evaluation of RCS Cost-Savings Analysis Presented to Consumers

Discussion of what constituted accurate representation of the savings that resulted from solar installations led to observations by industry and solar advocates that the current method of auditing houses for solar under RCS may be unnecessarily prejudicial to solar. For example, the current audit calculations for savings for solar assume no fuel price escalation. Reference to Code of Federal Regulations 456.307, Title 10, Pages 821 and 822 revealed no such escalation factor is prescribed. Given decontrol of natural gas and oil, suppliers thought that such a calculation especially expressed as pay-back period would significantly understate the economic benefit of solar. Solar advocates stated that if a fuel escalator is not included in the calculation, programs like RCS may actually deter solar market development.

In addition, it was noted that "pay-back" as an expression of economic benefit is not perhaps as appropriate as "rate of return on investment" when considering the criteria on which a homeowner should logically decide between two or more uses of capital.

Further discussion of the computer program used in the RCS audit process for calculating savings covered other problems. The computer program allegedly does not take into account the negative implications for cooling load that may occur from the addition of passive solar heating. Since summer peak is a major concern for Georgia utilities, this could be a serious problem.

The computer program calculation on savings also does not take into account the federal tax credit when comparing solar to other measures. The current procedure provides that the auditor will inform the homeowner of the existence of the tax credit after comparative calculations are presented. Again, suppliers voiced concern that this did not give consumers the best information at the logical point in the decision-making process.

ACTION: A variety of agreements to cooperate grew out of this discussion. Mr. Joe Pruitt of Georgia Power agreed to convene a meeting between representatives of the installer/supplier group and the utility to review the audit procedure and presentation of results as a step toward better communication with the solar community. Ms. Beverly Rowe, the State RCS Coordinator, agreed to investigate the possibility of similar meetings with other covered utilities in the state.

Mr. Dennis Creech of the Georgia Solar Coalition offered to assist Georgia Power in addressing the passive solar vs. cooling load question and also to meet with Ms. Beverly Rowe for informal assistance on the RCS audit procedure.

Education About the Energy Conservation and Solar Energy Bank

Because of remarks attributed to various nominees for important posts in the federal government, who indicated either lack of support for, or opposition to, the Solar and Conservation Bank, state of Georgia energy officials are holding off on planned efforts to educate bankers, utilities, and various

eligible state agencies as to how they can participate in the bank. The concern expressed was that they didn't want to put a lot of energy into something that might be cancelled. Aggressive action is planned upon receipt of more favorable news from Washington.

The Georgia Residential Financing Authority is one possible state agency which could participate in the bank, and this agency will be approached as soon as matters clear up.

RCS Listing and Delisting Procedures

Georgia's State Energy Office, the RCS Program Coordinator, and the Consumer Affairs Office have apparently established procedures that allow for clear communication and very little duplication of effort under the RCS program. The resulting system for listing and delisting and for consumer complaints goes a long way to providing consumer assurance.

Licensing and Certification of Installers and Product Certification

In discussions about installer licensing and product certification, the utility representatives and the solar equipment suppliers took the position that products should be certified by some independent national lab in order to ensure equipment standards and that there should not be state licensing of solar installers. The suppliers in Georgia as represented in this meeting prefer to see existing plumbing, electrical, and other relevant licensing examinations remain as the qualifying procedure. It should be noted that no representatives of the solar installers (as opposed to equipment suppliers) were present. In other states, installers seemed to be in favor of a special solar license.

ACTION: One of the equipment suppliers present, (Southeastern Solar Systems, Inc., 4705 J. Bakers Ferry Road, Atlanta, Georgia 30336) invited any participant in the meeting to participate free in the two-day training offered by his company, as a way of becoming familiar with the kinds of concern the private sector has for quality control and installer training.

Monitoring Changes in Property Tax Law

Georgia law grants local governments the right to abate that portion of assessed value of a dwelling that is attributable to the addition of solar equipment. This law expires in 1981 and may need some lobbying to keep it on the books in light of a recent court decision that found schools may not be financed in a way dependent on property tax.

This finding, under appeal, requires that the state change the method of gathering school taxes. If the solution chosen shifts the taxing process off real estate onto any other form of taxes, it is likely that property taxes will be reduced in order to hold the citizens' tax burden constant. Reducing local property tax collections may impact on local government enough for the local solar tax option to be perceived as undesirable.

ACTION: The Solar Coalition and the State Energy Office stated intentions to monitor the emerging tax modifications and try to assist solar in the event of any changes.

Education of Consumers

Georgia's Energy Extension Service Coordinator reviewed program efforts by her office. This program has been based on classic community organizing principles and has shown excellent results. Integration of consumer assurance information into existing programs is already underway.

SUMMARY OF RESULTS
NORTH CAROLINA SOLCAN MEETING
JANUARY 29, 1981

LIST OF INCENTIVES, CONSUMER ASSURANCE MECHANISMS, AND
SOLAR PROGRAMS REVIEWED

Federal

Solar Energy and Energy Conservation Bank
Federal Income Tax Energy Credit

State

Energy Conservation Tax Credit Act and Amendment, 1977 and 1979
Property Tax Exemption for Solar, 1977
Fair Business Protection Act
Home Solicitation Sales Law
Business Opportunity Sales Act
Credit Regulation for Retail Installment Sales Act
Consumer Product Warranty Law
Licensing Board of General Contractors
Board of Plumbing and Heating Contractors
North Carolina State Building Code
North Carolina State Energy Code
Residential Conservation Service
 Listing and Delisting of Suppliers and Installers
 HUD IMP Standards
 Energy Audits by Utilities
 One-Year Warranty
 Post-Installation Inspection
 Conciliation Conference
 Redress Procedures
Solar Training Programs

OPPORTUNITIES FOR COOPERATION AND ACTION

Building Inspector Training

All participants agreed that the enforcement of codes as applied to solar was inconsistent. One participant reported that on a practical basis something less than 30 percent of the state is covered by building codes, and even then inspection is not rigorous. Installers told of troublesome delays and of contradictory positions taken by individuals in the same building inspection office. It was generally agreed that more training for building inspectors is needed.

ACTION: The Solar Energy Association will provide a speaker with slides to the monthly meeting of building inspectors and also designate a member of their technical committee as a contact for building inspectors should there be a need for some assistance in the future.

Education of Installers, Suppliers, and Lenders on Warranties

Ms. Nancy Leonard of the Consumer Affairs Division enlightened the group on the differences between an "implied warranty" and a "written full warranty" or a "written limited warranty" and explained the implications of each for consumer redress. She provided written materials on this subject and other consumer issues and agreed to disseminate them to interested persons and groups. A great deal of educational discussion took place on what a salesperson can "represent" about system performance which might not be covered under warranty law but could be cause for a suit under statutes covering misrepresentation and fraud.

Ms. Leonard also informed the group that federal consumer protection laws may make a financing institution liable for suit under certain conditions. If the installer who sells the system to the consumer arranges for a loan to enable the consumer to purchase the system, the consumer would have the same "claims and remedies" against the lender as he would against the installer in the event of a breakdown in the system.

Outside Technical Expertise in RCS Redress

The redress procedures called for in the state RCS plan involve the use of outside technical experts if needed to provide an opinion on system failure. No actual process for identifying these experts is in place, and no money exists in the state budget to pay for them.

ACTION: Mr. John Manuel of the State Energy Office and Mr. Clarence Beaver of the Solar Energy Association agreed to work together in identifying likely experts. Mr. Manuel agreed to check on various financing mechanisms for the service, including creating a "redress technical expert fund" from utility contributions.

Evaluation of RCS Audit Procedure

In the audit procedures, the form used for reporting results of the renewable energy audits had several problems which caused considerable consternation among the solar installer community. The form used calculates the cost of a renewable measure by using averages of the local cost of equipment on the market rather than a range of the actual costs. This appeared to some suppliers (especially those with low-cost systems) to be prejudicial. This average cost is then divided by annual, nonescalated fuel dollar savings. A payback in years results which the dealers felt was neither accurate nor marketable. This situation was compounded by the fact that the tax credit for renewables would not be used to calculate payback in years in the section where the consumer is presented with the relative savings of each measure.

It was the opinion of the dealers that the number of payback years would stick with the consumer far longer than the second-stage calculation of the price after tax credits were figured in. In addition, Mr. Leon Neal of the North Carolina Solar Energy Association questioned whether "payback" as a concept was an appropriate economic methodology to apply to homeowner purchase decisions.

ACTION: The North Carolina Energy Division agreed to convene a meeting of solar suppliers and installers, the RCS program coordinator, and the utilities to review input to the computer audit form and to discuss possible alterations. Mr. John Manuel will convene this meeting on February 12th with the assistance of the North Carolina Solar Energy Association.

Financial Community Education

Several installers told of sales lost due to uninformed bankers who refused to finance solar systems. This lack of knowledge appears to exist in the real estate community as well, where agents are reputed to not understand the cash value of energy efficiency on solar dwellings.

ACTION: The North Carolina Energy Extension Service has workshop materials to use in training these groups, and the Solar Energy Association agreed to meet to discuss designing the workshops.

Tax Preparers Education

The meeting participants felt that as income tax time approaches, tax preparation specialists and consumers need to be reminded of conservation and solar tax credits (both state and federal).

ACTION: Mr. Bill Sambleson, a solar equipment dealer, assumed responsibility for contacting the tax preparers' trade association to set up a presentation at their regular meeting.

Clarifying Application of Utility Conservation Rate

Carolina Power and Light has instituted a conservation rate which grants a rate preference to customers living in homes which meet established conservation standards. The question arose as to whether a customer receiving an RCS audit and subsequently installing recommended measures would be informed if he were qualified for the preferential rate. It was further suggested that this savings of the rate be made a part of the RCS audit report form as an added inducement to homeowners to install recommended measures.

ACTION: The Energy Division agreed to schedule a meeting with the utility to discuss such a system.

SUMMARY OF RESULTS
SOUTH CAROLINA SOLCAN MEETING
JANUARY 21, 1981

LIST OF INCENTIVES, CONSUMER ASSURANCE MECHANISMS, AND
SOLAR PROGRAMS REVIEWED

Federal

Solar Energy and Energy Conservation Bank
Federal Income Tax Energy Credit

State

Division of Consumer Advocacy, 1978
Solar Information Programs
State Licensing of Contractors
Standard Building Code
Appendix "J" Energy Code
Residential Conservation Service
 Listing and Delisting of Suppliers and Installers
 HUD IMP Standards
 Energy Audits by Utilities
 Post-Installation Inspection
 One-Year Warranty
 Conciliation Conference
 Redress Procedures
Solar Training Programs

OPPORTUNITIES FOR COOPERATION AND ACTION

Education of Tax Preparers

Discussion of consumer awareness of tax credits and their effect on comparative shopping revealed that many tax preparation firms could benefit from some education on the issue.

ACTION: Ms. Suzanne Rhodes of the State Energy Office volunteered to undertake educational efforts in the form of a mailing and press release. The state's "energy hotline" staff will also receive tax information for further dissemination. Ms. Sarah Touchton of the Consumer Affairs Office agreed to include information about solar consumer assurance and the tax credits in their agency's newsletter.

Property Tax Abatement Law

In a discussion of possible hidden costs to solar consumers, examples were cited of reappraisals being performed on dwellings before the normal rotation as a result of new solar installations. Koster and Hopkins mentioned several states which have legislation that exempts solar installations from property tax.

ACTION: Ms. Rhodes volunteered to research this issue for the purpose of proposing the possibility of legislation through appropriate channels.

Consumer Assurance Coordination on RCS

Utilities representatives indicated a need to establish better coordination with the State Office of Consumer Affairs regarding listing and delisting procedures.

ACTION: Ms. Touchton agreed to make sure that there is communication between her staff assigned to RCS and the utilities.

Review of the RCS Audit Procedures

In trying to understand on what basis consumers would be making purchase decisions, Mr. C.P. Thomas of South Carolina Electric and Gas Company pointed out that the RCS audit computer programs which are being widely used by utilities may not be well tailored to local costs. For example, estimates of energy consumed for heating water seemed much too high compared to SCE&G service area experience. The calculation of savings on the audit might therefore overstate the benefit to the customer of a solar installation or other measures. In the long run this is likely to reduce the credibility of both the solar industry and the utility.

ACTION: All the utility representatives agreed to check the assumptions in their audit calculations.

A second potential problem which surfaced was stating the payback for a solar system in years, based on one year of service cost. Discussion of the RCS program also revealed the need for continuous evaluation during the early stages of the program.

ACTION: The State Energy Office agreed to convene a meeting to try to establish a feedback loop and some expectations as to which program components should be monitored.

Quality Control of Installations

South Carolina has a law requiring licensing of contractors doing over \$10,000 of business on any one job. By and large this does not cover the installation of most solar systems since the average cost is about half that amount. Although some installers "pull" a plumbing permit to install a hot water system and therefore must hire a licensed plumber (or at least pay one to pull the permit), the permit and building inspection process is practiced in only about 30 percent of the state. The consensus among meeting participants was that some procedure should be established for informing consumers about the benefits of using a licensed installer. It was further suggested that the RCS list of installers include their contractor license number if they had one.

ACTION: The State Energy Office agreed to consider this idea and investigate any legal implications.

Building Code Enforcement

The state has an energy building code called "Section J," which is an adaptation of the Southern Building Code. Enforcement of the code is left to local officials. In areas with no code enforcement, state officials have been acting in lieu of local officials. The basis for this policy is not clear cut since "Section J" does not directly delegate authority to the state to act in the absence of any local enforcement.

ACTION: The state legislature will be contacted by the Residential Home Builders Commission to determine the need for a binding legal interpretation or an amendment to the existing law.

ACTION: As part of the continuing effort to upgrade building officials' training, the Building Code Council representative Mr. James Altman will circulate the U.S. Department of Energy's publication detailing recommended guidelines for code officials and the HUD Installation Guidelines for Solar Domestic Hot Water. Ms. Rhodes will continue efforts to obtain multiple copies of these documents for Mr. Altman.

Clarification was requested of a procedure when an installer thinks the code enforcement is inaccurate or unreasonable. Mr. John Watkins of the Residential Home Builders Commission explained that an appeals route does exist in those jurisdictions where there is local enforcement. Each jurisdiction has a local appeals board.

ACTION: Mr. Watkins agreed to provide further information on request.

SUMMARY OF RESULTS
TENNESSEE SOLCAN MEETING
JANUARY 30, 1981

LIST OF INCENTIVES, CONSUMER ASSURANCE MECHANISMS,
AND SOLAR PROGRAMS REVIEWED

Federal

Solar Energy and Energy Conservation Bank
Federal Income Tax Energy Credit

State

Property Tax Exemption for Solar, 1978
Solar Access Law, 1979
Solar Information Programs
Consumer Protection Act, 1977
State Energy Conservation Code, 1979
Energy Conserving Improvement Loans, 1978
Board of Licensing Contractors
Standard Building Code (SBCC)
Tennessee Code for Energy Conservation
Residential Conservation Service
 Listing and Delisting of Installers and Suppliers
 HUD IMP Standards
 Energy Audits
 One-Year Warranty
 Post-Installation Inspection
 Conciliation Conference
 Redress Procedures
Solar Training Programs

OPPORTUNITIES FOR COOPERATION AND ACTION

Background

It is important to understand that the state of Tennessee is in the unique position of having two government jurisdictions involved in solar commercialization. The Tennessee Valley Authority, an agency of the federal government, is a wholesaler of electricity in seven states, including Tennessee, and has been in the forefront in the development of solar programs. For purposes of federal legislation, RCS for example, TVA is treated as a state. The state's energy office, the Tennessee Energy Authority, also has renewable energy responsibilities under RCS for gas utilities in Tennessee.

Effective Program to Implement Codes

Tennessee has passed a state law that makes legislated programs which must be implemented at the local level binding only if accompanying state funds for implementation are appropriated. This partially explains the fate of the State Energy Conservation Code of 1979, which might have provided a consumer assurance mechanism as well as incentive for installation of solar under a provision calling for solar in state buildings. No money is expected to be appropriated in this session of the legislature.

In addition, the Energy Conservation Code relies on the work of building inspectors. Only 9 of the 79 counties in Tennessee are currently covered by building inspectors. Even these inspectors, who are primarily in the metropolitan areas, are overworked and apparently undertrained. This situation has created a roadblock for state energy officials who must implement programs.

RCS Coordination

TEA representatives have attempted to concentrate resources on the RCS program implementation. Discussion revealed a need for coordination between gas and electric utilities to ensure that resources are not wasted through duplication.

ACTION: Beth Durland of TEA is going to convene a meeting of local utility representatives to address these and other questions.

It was also suggested that a meeting was needed to discuss the assumptions used in computer audit programs, including calculation of savings, utility rates, and equipment cost estimates. Representatives of Reynolds Metals Company particularly endorsed this suggestion, as it reflected a major concern of the solar industry.

ACTION: TVA and TEA staff agreed to talk further about convening such a meeting.

Independent Technical Expertise

TEA and TVA could both benefit by an independent expert or pool of experts in conservation and renewables for a range of duties including inspection of installations, technical investigation for redress procedures, certification of installers and auditor training. There would seem to be an ideal opportunity for cooperation between TVA and TEA in this area.

SUMMARY OF RESULTS
VIRGINIA SOLCAN MEETING
JANUARY 22, 1981

LIST OF INCENTIVES, CONSUMER ASSURANCE MECHANISMS,
AND SOLAR PROGRAMS REVIEWED

Federal

Solar Energy and Energy Conservation Bank
Federal Income Tax Energy Credit

State

Property Tax Exemption for Solar Equipment, 1977
Energy Conversion Equipment Separate Tax Item, 1979
Solar Easements Act
Installation Loans for Energy Saving Devices, 1977 and 1978
Administrator of Consumer Affairs, 1970
Consumer Protection Act, 1977
Contractor Recovery Act
Contractor's Registration Law, 1950 and 1979
Solar Information Programs
Virginia Solar Energy Center
State Board of Contractors Licensing
Virginia Uniform Statewide Building Code
BOCA Basic Building Code, Chapter 20
Residential Conservation Service (Federal Standby Plan)
 Listing and Delisting of Suppliers and Installers
 HUD IMP Standards
 Testing and Certification
 Energy Audits
 One-Year Warranty
 Post-Installation Inspections
 Conciliation Conference
 Redress Procedures
Solar Training Programs

OPPORTUNITIES FOR COOPERATION AND ACTION

Coordination of RCS Plan

Virginia chose not to submit a state RCS plan and is awaiting the federal standby plan. There seemed to be confusion about who could and would take responsibility for what. The State Energy Office is not allowed to commit resources to RCS activities. Consequently, it was not clear to what degree solar and conservation programs initiated by the state would incidentally benefit RCS. Two key areas of confusion centered around the listing and delisting procedures and the role of the State Office of Consumer Affairs in the conciliation conference. State licensing officials were also unclear as to their relationship to RCS.

ACTION: Mr. Joe Hart of VEPCO volunteered to host a meeting in which representatives of utilities, consumer assurance officials, and licensing board officials might try to determine lines of referral and responsibility as a prelude to cooperative agreements.

Building Inspector Training

There was considerable discussion on building inspectors' lack of familiarity with the emerging solar technologies. It was decided that a presentation for them could be arranged as part of their regular quarterly meeting.

ACTION: Mr. Zan Beattie and Mr. John Nagle of the State Department of Housing and Community Development agreed to take responsibility for this effort.

Training of Consumer Affairs Officials

Mr. Farmer requested some training for his staff on the kinds of consumer complaints they may receive in regard to solar.

ACTION: Ms. Kathy Erickson of the State Energy Office agreed to work with the Consumer Affairs Office in the area. Ms. Holly Mauer of the State Energy "Hotline" also agreed to coordinate referrals for information with the Consumer Affairs Office.

Mr. Bob Poignant of the Virginia Solar Energy Association discussed a consumer solar installation monitoring manual published by New York state. The manual gives the consumer a common English, step-by-step method of determining whether a system is being installed correctly.

ACTION: Mr. Poignant agreed to provide a copy to the Consumer Affairs Office for their consideration as an item to be mailed to consumers who request assistance.

Licensing of Solar Contractors

There is apparently room for cooperation between the Board of Licensing and the Department of Consumer Affairs in the area of consumer redress due to a state requirement for licensing of contractors who provide home improvements of over \$1,500 on any individual contract. Unlike states where the minimum for this license may be \$10,000 per contract, Virginia has a means of monitoring home improvement contractors.

ACTION: Mr. Farmer of Consumer Affairs agreed to contact the licensing board to establish some means of coordination.

A related issue in Virginia, as in other states, is the "pulling" of plumbing and electrical permits. The state contractors license is not a competence-tested license, but a license to do business. In order to pull the plumbing permit necessary to install a DHW solar system, however, one must be a licensed plumber. Mr. Luther White, a solar installer, explained how the current situation provides an unnecessary monopoly for master plumbers. He observed (with support from other participants in the discussion) that installing a solar system does not require all the skills of a master plumber or master electrician and suggested that a separate permit for solar water heaters be created.

ACTION: Mr. John Johanson of the State Energy Office agreed to convene a meeting of building inspectors, licensing officials, and industry representatives to discuss this issue.

Data on the Impact of Solar on Utilities

Utilities representatives, particularly those from VEPCO, expressed a need for information on solar system performance in their service area so that they could make judgments as to the effect of solar systems on their load profile and peak demands.

ACTION: Mr. Bob Poignant of the VSEA and Jim Solomons of the Energy Office agreed to provide VEPCO with information on monitored systems in Virginia. Mr. Dick Baughman of the Rural Electric Coop Association agreed to provide information on water heating and air conditioning load management studies.

Installer Training

The need for installer training kept surfacing in discussions of consumer assurance mechanisms and as an alternative to further "government regulation" of the industry.

ACTION: Mr. John Johanson of the State Energy Office proposed to re-activate interest expressed by area technical schools in providing such training. First steps in this area would likely be tuition-dependent "continuing education" type courses. It was further suggested that schools consult with the solar industry association and state licensing board for curriculum design guidelines.

Publicizing Solar Tax Incentives

There was general agreement that the public is still unaware of the tax advantages of solar. As an example, many persons do not understand the difference between a tax credit and a tax deduction. Tax preparers comprise one group whose education on solar tax advantages would have a multiplying effect on public awareness.

ACTION: Ms. Kathy Erickson of the Energy Office volunteered to publicize the tax incentives and work with the Office of Consumer Affairs to produce a press release. The Energy Office has a newsletter which can reach a limited but useful population.