

The Homes on the Triangle Tour

Durham

1 New traditionally styled 1730 sq.ft. passive solar home on wooded site with good solar access, tight construction and high insulation levels. Thermal mass includes two vertical walls and colored concrete flooring.

Solterra Community:

Four homes will be open for the tour of this planned community.

2 Contemporary new 1815 sq.ft. passive solar home with screen porch has Polysteel concrete form walls with stucco finish. Floors are colored concrete on south side for thermal mass.

3 Country-style contemporary 1900 sq. ft. home is sun-tempered with east and west porches, and partial brick flooring for mass.

4 3200 sq.ft. vernacular farmhouse was built using the Advanced Dry-wall Approach. This sun-tempered house has overhangs and arbors for summer shading.

5 New contemporary 1830 sq.ft. sun-tempered house has an open plan design and includes a screen porch.

appliances and the owner has modified the modular house system to incorporate passive solar.

Carrboro

Arcadia Co-housing

Community: Three houses and the community building will be on the tour. The homes are four years old and the Common House has just been completed. All 33 homes in Arcadia were custom-designed using an architectural code developed for the community.

8 One story 1300 sq.ft. passive solar home has clerestory windows in the center, a radiant floor system and solar hot water.

9 Unique 900 sq.ft. efficient house generates its own power with a photovoltaic system. It also features passive solar design, radiant flooring, and solar hot water.

10 One story home is 1700 sq.ft. passive solar design with radiant floor system.

11 Common House 3000 sq.ft. passive solar building includes a five-sided window wall for the dining room for 50 people, large kitchen, two guest rooms, children's playroom, laundry and office for community.

Hillsborough

12 This transitional sun-tempered home is 4100 sq.ft., includes a concrete slab floor with tile, open floor plan, and efficient wood burning fireplace. The exterior is recycled material and stone.

Efland

13 Traditional one story, brick exterior, passive solar home is 2685 sq.ft. plus 685 sq.ft.

for pool. It has an open courtyard, interior swimming pool, and screen porch. Thermal mass is colored concrete slab with radiant heating system. Courtyard design allows a hallway to act as a sunspace and transfer heat to adjacent spaces. Comprehensive control panel in crawl space includes active solar system for domestic hot water and radiant heating.

Raleigh

14 NCSU Solar House:

This demonstration house is on the McKimmon Center campus of NCSU and will be open all day. It is passive solar design with an isolated sunspace and two Trombe walls, and has an active solar water heating system. The photovoltaic panels on the roof supply power to the house and a battery bank; the system is connected to the electric grid. The Solar House has a media center, a library and free printed materials.

Wake Forest

15 Contemporary 2200 sq.ft. solar home has a geothermal envelope design incorporating a sunspace and massive timber walls for thermal mass. This home has an active solar water heating system and a PV system with battery bank that supplies power to lights, refrigerator and desiccant wheel dehumidification system.

Holly Springs/ Fuquay-Varina Area

16 Solar electric system on ranch house includes a wind power system and two photovoltaic systems that track the sun, plus a battery storage system. Oversized

active solar water heating system compensates for facing east; house is not passive solar design.

Lake Wheeler Area

17 New contemporary 4900 sq.ft. passive solar home has 2½ story isolated gain sunspace; attached greenhouse; daylighting provided by clerestory windows, skylights and Solatubes; and many other energy-efficient features and appliances.

18 New transitional 2800 sq.ft. passive solar home has courtyard entrance, Mexican floor tile over concrete slab for thermal mass, arbor with adjustable awnings to regulate solar gain and is earth-bermed on north and west sides to hold in heat or cool.

19 New transitional sun-tempered home is 2470 sq.ft. with hydronic piping installed in basement floor slab for thermal storage, piping roughed-in for future roof-mounted Solex tube system (solar hot water system, which will boost efficiency of traditional heating system), hollow concrete basement walls with power vents collect and distribute solar heat.

Other Tours in North Carolina

Asheville: Contemporary totally solar-powered home featuring photovoltaics, passive solar design, and many energy efficient appliances will be open on October 16. Call Ske Boniske for information: 828-687-7618.

Schedule

Registration

Church of Reconciliation, 110 N. Elliott Road, Chapel Hill

8:30–10:30 a.m.

Program: Solar Home Design and the NEW Solar Tax Credits

9:00 a.m.

Self-guided Home Tours

10:00 a.m.–4:00 p.m.*

* Homes are open either:

10:00 a.m.–2:00 p.m. or 12:00 p.m.–4:00 p.m.

Definitions of Solar Home Features

Passive solar homes are those optimally designed to take advantage of the sun for heating in the winter and are shaded with an overhang, trellis, etc. in the summer and swing months. These homes have calculated amounts of thermal mass (concrete, tile, stone, etc.) and glass, and their solar features are oriented to the south.

Sun-tempered homes are designed to take advantage of the sun and are oriented to the south, but have less glass to the south, possibly more glass to the east, west and north, and may not have optimal amounts of thermal mass. They generally perform better than an average home but not as well as a totally passive solar home.

Active solar: Some houses on the tour include active solar water and space heating systems. These systems are installed on houses that are passive solar, sun-tempered, and/or have a solar electric system. These systems use the sun to heat or preheat the water heater, radiant floor or other heating system.

Solar electric systems: Wind power and photovoltaic (PV) systems are featured on houses on this tour. The wind generators include a tower ("windmill") and a battery storage system; the PV systems consist of solar panels either on the roof or rotating on a pole to track the sun's path and use a battery storage system. Systems may include an inverter to convert solar electricity from dc to ac. There are many ways these systems can be hooked up to the home; you will learn much more on the tour.

Boone: Tour organized by the Appalachian State University Solar Energy Society. Call Marcus Renner for information: 828-964-0201 or mr8680@appstate.edu.

Burnsville Area: Five or six off-grid/active solar homes in Celo will be open. Call June Engman after October 1st at 828-675-5591 for information.

Triangle Tour Registration

	by Oct. 8	Oct. 9 and after
NCSEA members	<input type="checkbox"/> \$10	<input type="checkbox"/> \$15
Non-members*	<input type="checkbox"/> \$15	<input type="checkbox"/> \$20
Students	<input type="checkbox"/> \$10	<input type="checkbox"/> \$10

* A one-year NCSEA membership is included with your tour registration fee.

Do not mail registrations after October 8; instead please fax your registration to 919-863-4101 or call 919-832-7601. You may register at the tour.

Refund policy: There will be no refunds after October 8, 1999. To register more than 2 people, please copy this form.

Name 1 _____

Name 2 _____

Title _____

Company _____

Address _____

Address _____

City/State/Zip _____

Phone _____

Fax _____

Email _____

Total amount to be charged or on enclosed check: \$ _____

MC/VISA# _____

Exp. Date _____

Signature _____

Date _____

Mail form with check to:
NCSEA, 2501 Blue Ridge Rd., Suite 150, Raleigh, NC 27607
Fax with credit card information to 919-863-4101.

About the Triangle Tour of Solar Homes

Join us on Saturday, **October 16**, to visit solar homes and decide which features you want in YOUR solar home! Home tours will be taking place in almost every state in the U.S. that day, and North Carolina is offering tours in the Triangle, Boone, Burnsville area, and Asheville. Last year almost 500 people toured homes in North Carolina on National Tour day, and across the country over 20,000 people visited solar buildings in over 100 communities!

Don't miss out on this opportunity to see your solar dream house first hand. Talk to the owners, builders, designers and solar contractors, and see for yourself how well solar works and how affordable it is.

Triangle Tour

This year's Triangle Tour will feature homes in Durham, Orange and Wake counties. Your tour ticket includes a map to all the homes; you decide which ones to visit.

Come early for a program on solar home design and the new renewable energy tax credits at 9:00 am.

Where to Meet

Register and pick up your map at the Church of Reconciliation, 110 N. Elliott Road, Chapel Hill, between 8:30 and 10:30 a.m.

About NCSEA

The North Carolina Solar Energy Association (NCSEA) has been promoting renewable energy technologies and policies for over twenty years. This year NCSEA wrote new and expanded state renewable energy tax credits which passed the legislature unanimously. NCSEA is also advocating for net metering and increased inclusion of renewables in the electric utility industry. It publishes a quarterly magazine, *Carolina Sun*, organizes the solar home tour and other programs.

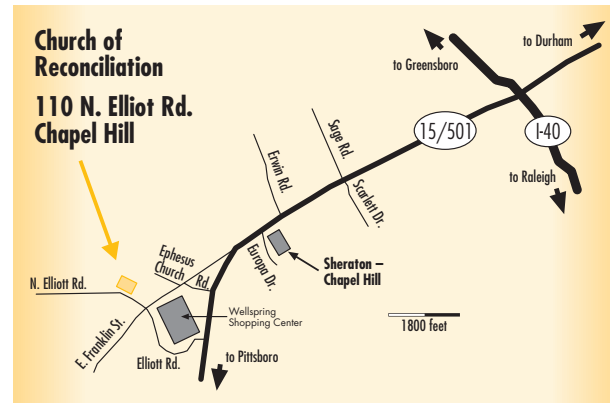
About American Solar Energy Society

The American Solar Energy Society (ASES) is a national organization dedicated to furthering the understanding and use of solar energy. ASES coordinates the National Tour of Solar Homes, holds an annual

national technical conference, and publishes *Solar Today*. NCSEA is your local chapter of ASES. See their website at www.ases.org.

For more information about the Triangle Tour

see the NCSEA web page: www.mindspring.com/~ncsea
call NCSEA: 919-832-7601



About our sponsors:

North Carolina Solar Center



Located at the NC State University Solar House adjacent to the McKimmon Center in Raleigh, the North Carolina Solar Center provides programs and information on solar energy for professionals

and homeowners. It maintains an information clearinghouse, provides design reviews, holds workshops, and has a reference library and media center. The Solar House is open 9 a.m. to 5 p.m. Monday through Friday and Sundays 1 p.m. to 5 p.m. The N.C. Solar Center is sponsored by the Energy Division of the N.C. Dept. of Commerce, and the U.S. Dept. of Energy, with State Energy Program funds, in cooperation with N.C. State University. For more information call 1-800-33 NC SUN

(in NC) or 919-515-3480 or see the web site at www.ncsc.ncsu.edu.

Energy Division, NC Dept. of Commerce



The N.C. Energy Division was created by the Legislature to maintain a comprehensive plan that enables North Carolinians to cope with energy-related emergen-

cies. The Division also manages programs that develop newer and better technologies designed to improve energy efficiency. The Division has provided direct assistance to residents in all of the state's 100 counties.

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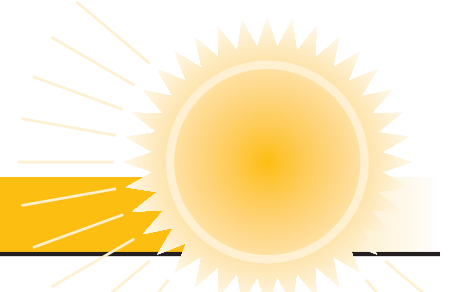
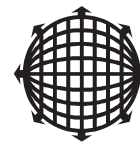
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N.C. State University
Raleigh, NC 27695-7401



North Carolina Solar Energy Association

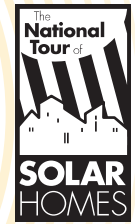


American Solar Energy Society



Triangle Tour of Solar Homes

October 16, 1999



Organized by
N.C. Solar Energy Association
in partnership with **N.C. Solar Center**

Early Sponsors:

- Platinum:** Energy Division of N.C. Dept. of Commerce
- Gold:** WoodWise Design & Remodeling
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