

Petition for Installing Roof-Mounted Solar Energy Systems

Environmental Stewardship Advisory Board

November 13, 2018

Whereas: The Chapel Hill Town Council has previously passed a resolution to support local activities which reduce our carbon footprint in support of the Paris Climate Accords; and

Whereas: Energy consumption in buildings represent almost half of the energy use in all sectors of our economy; and

Whereas: Most of this building energy comes from the burning of fossil fuels, so that the reduction in building energy use will reduce the carbon footprint; and

Whereas: The Town cannot require owners to achieve a reduction in building energy use greater than that specified by the North Carolina building codes; and

Whereas: § 160A-383.4, Local Energy Efficiency Incentives, allows the Town to require the installation of certain desired equipment to reduce conventional energy use in new development for which a rezoning with a Special Use Permit is requested.

Therefore, be it resolved: The Environmental Stewardship Advisory Board asks the Town Council to require all new building construction and renovations in Chapel Hill which require a rezoning with a Special Use Permit to install roof-mounted solar energy systems over at least 80% of eligible roof areas, with the following stipulations:

- Eligible roof areas include all unshaded flat roofs and pitched roofs facing between the directions of southeast to southwest. Parking garages shall be included in these requirements if the excess energy output from their solar energy systems will be utilized in adjacent occupied buildings.
- Active solar energy systems include solar electric photovoltaic (PV), solar thermal hot water, solar thermal space heating and cooling, and solar thermal electric power. Passive solar energy systems include roof-installed daylighting structures.
- The maximum electric power output of a solar energy system shall not exceed the annual maximum instantaneous electric power demand for the building, unless energy storage is included in the system design. This stipulation may reduce the 80% rule.
- The annual solar energy produced and utilized by a solar thermal system shall satisfy at most 75% of the energy consumption of the building for space heating, space cooling, and hot water. This stipulation may reduce the 80% rule.
- The roof design may include a combination of active and passive solar energy systems.

- Adherence to these stipulations may be wholly or in-part waived for buildings that integrate non-carbon energy technologies which produce a greater carbon-reduction effect than the solar energy technologies identified herein.

Background Information:

§ 160A-383.4. Local energy efficiency incentives.

(a) Land-Use Development Incentives. - Counties and municipalities, for the purpose of reducing the amount of energy consumption by new development, and thereby promoting the public health, safety, and welfare, may adopt ordinances to grant a density bonus, make adjustments to otherwise applicable development requirements, or provide other incentives to a developer or builder within the county or municipality and its extraterritorial planning jurisdiction if the developer or builder agrees to construct new development or reconstruct existing development in a manner that the county or municipality determines, based on generally recognized standards established for such purposes, makes a significant contribution to the reduction of energy consumption.

(b) Repealed by Session Laws 2009-95, s. 1, effective June 11, 2009. (2007-241, ss. 1, 2; 2008-22, s. 1; 2009-95, s. 1.)