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State of Connecticut
Planning & Development Committee
Legislative Office Building
Hartford, Connecticut

Dear Planning & Development Committee:

I am pleased to write in favor of the green building tax credit bill, Bill 5798. Let me tell you first about my strong interest in sustainable design. I am currently the Gallivan Research Professor of Law at the University of Connecticut School of Law and my areas of study are land use, property, and real estate law. I am trained (though not licensed) as an architect and am in the midst of studying for the Leadership in Energy and Environmental Design (LEED) Accredited Professional exam. I am currently in the process of publishing an article on the legal barriers to "building green." In addition, I recently organized a conference on Sustainable Development and the Law, which some legislative staff members attended. In the interest of full disclosure, I work as a consultant for Becker Development Associates, LLC, a development firm aiming to build a green project in downtown New Haven, a representative of which is also testifying before this committee.

Connecticut is woefully behind in the race among the states to develop green building incentives. While we do have some limited incentive programs, they are not enough to persuade developers to build green. Project after project is being built in this state, with serious negative environmental effects and with no consideration as to sustainable community or building design.

Other states, like New York and Maryland, have become pioneers with respect to green building tax credits. In those states numerous projects have been built to showcase the benefits of sustainable design. In Connecticut, by contrast, we have several large, transit-oriented development projects in New Haven, Bridgeport, and Stamford, whose developers are aiming to build green but have found it difficult to do so. It is notoriously expensive to engage in real estate development in Connecticut, and for green building projects, the economics simply do not work.

That is where a green building tax credit should come in and close the gap. Bill 5798 aims to target those project in transit-oriented locations—projects which are, *by their very location*, green—and to provide assistance to close the funding gap. It is important to note that there is no short-term fiscal impact to the state budget for this bill. Buildings can only claim the tax credit after they have been placed in service and obtained LEED certification. In most cases, this will be three or four years after the legislation is enacted.

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The state's administrative costs are also low in this bill because the tax credit program would be tied to the LEED standard. Instead of the state verifying the energy efficiency or sustainability of individual buildings, the nonprofit, nongovernmental U.S. Green Building Council would do so, at the applicant's expense. While there are innumerable innovative ways one can build green, the best and most common definition of green building can be found in the LEED program. The LEED program evaluates the sustainable features of new construction in six areas: (1) location and siting; (2) water efficiency; (3) energy and atmosphere; (4) materials and resources; (5) indoor environmental quality; and (6) innovation and design. In addition to the LEED for Neighborhood Development program, there are other programs for new construction, existing buildings, and core and shell. All of these programs are covered in the language of this bill. Property owners can petition the U.S. Green Building Council for a certificate indicating that their buildings have achieved a certain number of points within each of these six areas. It is this certificate which the state could use to certify the green building tax credits created by HB 5798.

I would like to finish my letter by describing in detail the urgent environmental need to build green. In the paragraphs that follow, I am excerpting several paragraphs from my recent article on green building, without citations, for ease of reading. I can provide full copies of my article, with citations, to any committee member who may be interested.

Construction is the nation's largest manufacturing activity, using sixty percent of non-food, non-fuel raw materials each year. Worldwide, buildings and the construction of buildings account for one-sixth of the world's freshwater withdrawals, forty percent of the world's material and energy flows, and fifty-five percent of wood cut for non-fuel uses. In conventional buildings, materials are often brought in from long distances, with project managers giving little or no consideration as to the availability of local alternatives or to the amount of energy used to transport materials. Sustainable design principles, by contrast, recognize that the use of local materials helps the environment by reducing the number of vehicle-miles attributed to a project, and LEED awards points for the use of materials extracted and manufactured within a five hundred mile radius of the registered project. Similarly, few conventional projects incorporate recycled materials to a significant degree—unlike LEED certified projects, nearly all of which incorporate recycled materials. Construction is also the largest single source of solid waste, annually generating 136 million tons of waste. In conventional projects, such waste is rarely recycled or salvaged. LEED, however, awards points to property owners who recycle construction materials, maintain between seventy-five percent and ninety-five percent of existing walls and roof structures, maintain fifty percent of non-structural interior elements, use five to ten percent of salvaged or refurbished building materials, and use ten to twenty percent of recycled materials.

Post construction, conventionally designed buildings consume massive amounts of natural resources. Large buildings require millions of gallons of water to operate basic systems and to meet inhabitants' needs; commercial buildings alone use twenty percent of our nation's drinking water supply annually. Keeping buildings lit, cool, warm, or otherwise habitable takes up thirty-seven percent of primary energy use, and two-thirds of all electricity use. LEED-certified projects consume substantially less water and energy, which translates into operating savings for the owner: Studies have shown that such projects generate utility bills thirty to fifty percent less than utility bills for conventional buildings—a reasonable proxy for consumption.

The post-construction operation of buildings also has a substantial impact on air quality. Buildings generate thirty-five to forty percent of the nation's carbon dioxide emissions

(greenhouse gases), along with forty-nine percent of sulfur dioxide emissions, twenty-five percent of nitrous oxide emissions, and ten percent of particulate emissions. In light of such statistics, the value of sustainable design is clear. Green building reduces both the amount of waste that demolition and new construction produce and the amount of resources consumed over the life of the building. In addition to minimizing negative externalities, green building creates significant benefits to private actors. Chief among these are economic benefits, despite the perception that green building is excessively costly. Recent studies have shown that the cost of green commercial or institutional buildings ranges from no more costly to approximately two percent more costly than conventional versions of those buildings. Even when the up-front cost of green buildings is marginally higher, green buildings use energy reducing, emissions reducing, and water conserving measures that substantially reduce operating costs over the life of a building. Such savings have been estimated to be at least ten times the amount of the initial investment. A less obvious but potentially greater financial benefit relates to productivity and health, which accounts for up to seventy percent of the overall financial benefit of green building. In workplace environments with effective ventilation, natural or adequate lighting, and high-quality indoor air, worker productivity has been shown to increase by six to sixteen percent. Absenteeism and employee turnover rates are reduced. Clean, healthy buildings can significantly improve the quality of life of the average American, who spends ninety percent of her time indoors.

The need to create clean, healthy buildings is urgent, and Connecticut should take the lead in doing so. I would urge you to support this bill and am happy to serve as a resource for anyone who may be interested in speaking further about this. Thank you again for considering Bill 5798.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Sara C. Bronin', is written over a vertical line that serves as a signature separator.

Sara C. Bronin