Harvard Solar Garden I, LLC seeks determination of exemption under MGL 59 Section 5, forty-fifth, which provides 20-year exemption for "…any solar or wind powered system or device which is being utilized as a primary or auxiliary power system for the purpose of heating or otherwise supplying the energy needs of property taxable under this chapter;"

The LLC is wholly owned by individuals and/or small businesses, and was formed for the sole purpose of constructing and operating a community shared photovoltaic solar system, with the output from the system net metered to the properties of the shareholders. No power will be sold to the grid, nor to any non-shareholder entity.

The LLC was formed in December, 2011 and shares were purchased by individuals and/or businesses unable to install PV solar on their own property, for reasons of excessive shade, poor solar orientation, or structural limitations. Following Harvard's highly successful "Solarize Massachusetts" program, in which 75 residents contracted for over 400 kW of PV solar to be constructed on premises, the community shared solar system would be a way for those unable to participate on their own property, to do so with a share of the solar garden.

After building permits were denied at two different Harvard sites (17-acre Woodchuck Hill Road site, 1.3 acre lease area, denied as commercial in A/R, Ayer Road site now deemed suitable, denied because non-accessory solar was not an allowed use in C-District), LLC requested siting in the PV Solar Overlay District (10+ acre DPW site on Depot Road), apparently the only place in Harvard where a shared system would be allowed. This despite MGL 40A Section 3 (subjects which zoning may not regulate), which states in part, "No zoning ordinance or by-law shall prohibit or unreasonably regulate the installation of solar energy systems or the building of structures that facilitate the collection of solar energy, except where necessary to protect the public health, safety or welfare."

A quick assessment of the DPW/transfer station site determined that no more than 150 kW could be installed, without relocation of a significant amount of DPW operations.

Working with Board of Selectmen and Planning Board, decision was made to call a special town meeting in August, and two warrant articles (1) added parcels 25 and 27 in the C-District to the PV Solar overlay district, and (2) made non-accessory solar an allowed use in the overlay district. Using 150 foot setback from Ayer Road and Old Mill Road, as well as requiring screening to prevent visibility, Planning Board ensured the commercial development value of the properties would not be compromised, ensuring no loss of future potential tax revenue from commercial development. The land made available for PV Solar is land that would otherwise have no development value.

Planning Board acted quickly to complete site plan review, reviewing the ground lease to ensure that conditions for siting in the overlay district would be met, and 7 months after the first building permit application, the Building Commissioner gave his approval, applying the commercial $12 per thousand of construction value to determine a permit fee of nearly $20,000. When Solarize started, a new "Solar Panels" permit category was

established, with a flat fee of $125 for building permit, and $35 per electrical. Had these fees been applied for the 40-participant shared system, the fee would have been ~$6,500.

The fee has not been paid, and the project is on hold, pending determination of exemption from local tax.

During Solarize, the economics of PV Solar were estimated as having payback of 4-5 years, at Harvard's maximum participation level. Gross cost was reduced by Comm Solar II grants from Massachusetts Clean Energy Center, a 30% federal tax credit, and Solar Renewable Energy Credits for 10 years at more than $500 per MWh, with a floor of $285. When the solar garden LLC was formed, it was clear payback would not be as good as on-site installation, because of higher costs --- extra cost for ground mounting, site preparation, engineering, insurance, and a required decommissioning reserve (according to the conditions of the overlay district, the LLC has to be able to remove the temporary system at the end of its useful life, and return the land to its undisturbed condition; clearly not a permanent structure). Payback for a share in the solar garden was initially estimated at 7-8 years.

With the increased costs already incurred (engineering the system for two different sites, preparing for the multiple hearings), the higher than expected permit fees, and lowered SREC forecasts (now below $200, with an uncertain future), payback is now estimated at 11-12 years.

Almost any amount of local taxation would put the project permanently underwater, unable to recover within the 20+ year expected lifetime of the system. With that outlook, the project would be uneconomic, and would not be started.

When the project was initiated, it was anticipated that a modest rent would be required, to compensate the landowner for committing his property to a collection of easements for a minimum of 20 years. An on-site installation is unlikely to be 100% efficient. Roof angle may not be optimum, orientation may be somewhat skewed from solar south, there may be some morning or evening shade. MassCEC requires at least 80% of optimum in order to provide grants. A community shared system, with optimum siting and clearing to eliminate shade, can be close to 100% efficient. This efficiency difference gives the solar garden a factor estimated at 5% that can be used to give net meter credits to the host as rent. If we were building the system on municipal land, that rent factor could be designated to a town electricity account, and could function as a payment in lieu of taxes (PILOT). The ground lease executed between the LLC and the property owner calls for 3% of generated electricity to be net metered to the host as rent. This leaves a small factor (1 or 2 percent) that could be credited to the town according to a PILOT agreement.

Legislation filed by Senator Downing, and co-sponsored by Senator Eldridge, points in that direction, modifying MGL 59 Section 5 forty-fifth to grant exemption for all non-accessory solar, provided a 6% PILOT agreement is in place, and allowing for net metered credit as the form of payment.