

Town of



# AMHERST *Massachusetts*

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May 11, 2011

TO: Town Meeting Members

FROM: John P. Musante, Town Manager *JPM*

SUBJECT: Article 24 – Authorize Term of Lease for Solar Project at Old Landfill

The purposes of Article 24 are to authorize the Town Manager to lease all or any portion of the Old Landfill for the installation and operation of a solar array, negotiate easements, and enter into a Power Purchase Agreement for a period not to exceed thirty years. The Amherst Town Government Act states that the Town Manager has the authority to procure, negotiate, and award all contracts for all departments of the Town except the schools and library. In that capacity, I award millions of dollars of contracts for goods and services each year. State law, however, requires Town Meeting authorization to allow me to enter into any contracts greater than three years.

Upon my appointment as Town Manager last October, the Select Board developed eight specific performance goals for my first year, including the following:

*“The Town Manager shall help Amherst become a greener, more sustainable community by initiating and advocating for new “green” efforts and programs, and he shall inform the Select Board and the community about these efforts and their results.”*

Per my recommendation, three specific action items in fulfillment of this goal are included in this year’s Annual Town Meeting Warrant:

- Article 14 - Conservation & Development Budget includes the creation of a part-time Energy/ Sustainability Coordinator (funding approved – thank you);
- Article 27 - Adoption of Stretch Energy Code to enable Amherst to obtain Green Communities Act designation for grants and other state incentives, and;
- Article 24 - Authorize Term of Lease for Solar Project at Old Landfill.

Following a competitive Request for Proposals (RFP) process that resulted in six proposals submitted to the Town from solar project developers from across the country, I issued a Letter of Intent to begin negotiations with BlueWave Capital of Boston, MA to develop a solar electric generating facility with a total of up to 4.75 megawatts (MW) within the old

landfill across the street from the Transfer Station at Belchertown Road in Amherst, the project that is the subject of Article 24. This renewable energy proposal has the potential to create substantial environmental and economic benefits to the Town of Amherst by:

- Providing the Town municipal and school operations with virtually all of its total electricity consumption from a clean, renewable solar photovoltaic system;
- Reducing our reliance on fossil fuels – the clean energy produced by the largest possible solar array on that site would be equivalent to planting 150,000 trees or taking 15,000 cars off the road;
- Providing estimated electricity cost savings of over \$25 million over the next thirty years and eliminating the risk associated with volatile and unpredictable future energy prices; and
- Generating property tax payments in the hundreds of thousands of dollars per year over the life of the system.

While I believe there is widespread support in the community for the Town to be a leader in renewable energy, some have expressed concern about the environmental integrity of the old landfill site and the wisdom of placing a solar array on the site. *Let me assure town meeting members that the Massachusetts Department of Environmental Protection (DEP), pursuant to its review of the Town's Comprehensive Site Assessment and Qualitative Risk Assessment reports submitted in 2009, ruled last year that the current site is safe and that there were no significant risks to human health or public safety posed by the landfill.* Their conclusions are based upon their frequent on-site inspections and their review of twenty-plus years of environmental monitoring data submitted by the Town. The current re-grading project, needed with or without a solar project, has received all of the necessary environmental approvals from DEP to maintain the integrity of the existing clay cap.

The proposed re-use of portions of the landfill site for solar will require extensive state and local permits, with opportunities for public input, before any project can proceed. Massachusetts, to its credit, has some of the strictest environmental regulations in the country. *No solar project will be permitted by DEP unless they are convinced it can be done safely.* A Special Permit will also be required from the Amherst Zoning Board of Appeals.

I am presently negotiating, with the assistance of town counsel (and also, soon, with the help of a financial consultant versed in renewable energy contracts and markets), a Power Purchase Agreement (PPA) with BlueWave. Please see the attached excellent summary of the purposes and structure of a Solar Power Purchase Agreement produced by the Environmental Protection Agency. The PPA and lease contracts will include the appropriate financial and environmental assurance mechanisms to protect the Town's interests now and in the future.

Solar at the old landfill is the first of what I hope will be many such projects by the Town to become a leader in renewable energy. We are actively exploring other Town-owned sites for solar projects. I encourage you to also review the "Amherst Solar Project Frequently Asked Questions" document. *I hope that you will support Article 24 so that the Town can proceed with the permit process to determine whether or not it is possible to create a substantial renewable energy project at the old landfill.*



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## Green Power Partnership

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## Solar Power Purchase Agreements



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### What Is a Solar Power Purchase Agreement (SPPA)?

A Solar Power Purchase Agreement (SPPA) is a financial arrangement in which a third-party developer owns, operates, and maintains the photovoltaic (PV) system, and a host customer agrees to site the system on its roof or elsewhere on its property and purchases the system's electric output from the solar services provider for a predetermined period. This financial arrangement allows the host customer to receive stable, and sometimes lower cost electricity, while the solar services provider or another party acquires valuable financial benefits such as tax credits and income generated from the sale of electricity to the host customer.

With this business model, the host customer buys the services produced by the PV system rather than the PV system itself. This framework is referred to as the "solar services" model, and the developers who offer SPPAs are known as solar services providers. SPPA arrangements enable the host customer to avoid many of the traditional barriers to adoption for organizations looking to install solar systems: high up-front capital costs; system performance risk; and complex design and permitting processes. In addition, SPPA arrangements can be cash flow positive for the host customer from the day the system is commissioned.

### How do SPPAs Work?

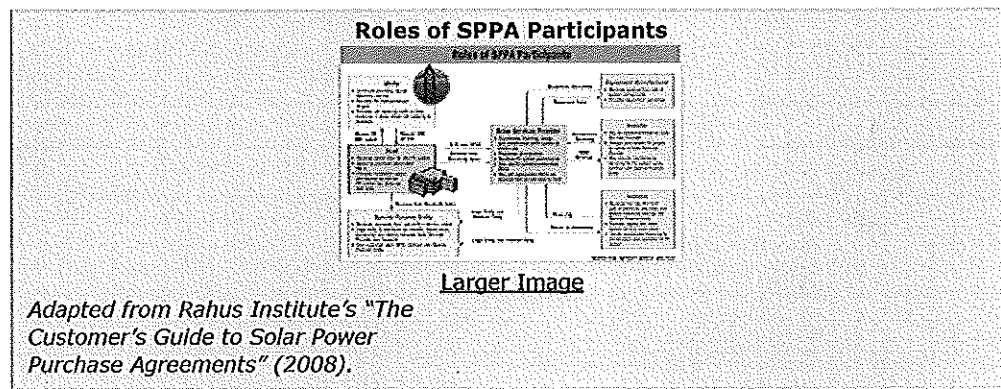
Figure 1 below illustrates the roles of all participants in an SPPA.

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A **host customer** agrees to have solar panels installed on its property, typically its roof, and signs a long-term contract with the solar services provider to purchase the generated power. The host property can be either owned or leased (note that for leased properties, solar financing works best for customers that have a long-term lease). The purchase price of the generated electricity is typically at or slightly below the retail electric rate the host customer would pay its utility service provider. SPPA rates can be fixed, but they often contain an annual price escalator in the range of one to five percent to account for system efficiency decreases as the system ages and inflation-related costs increases for system operation, monitoring, maintenance, and anticipated increases in the price of grid-delivered electricity. An SPPA is a performance-based arrangement in which the host customer pays only for what the system produces. The term length of most SPPAs can range from six years (i.e., the time by which available tax benefits are fully realized) to as long as 25 years.

The **solar services provider** functions as the project coordinator, arranging the financing, design, permitting, and construction of the system. The solar services provider purchases the solar panels for the project from a **PV manufacturer**, who provides warranties for system equipment.

The **installer** will design the system, specify the appropriate system components, and may perform the follow-up maintenance over the life of the PV system. To install the system, the solar services provider might use an in-house team of installers or have a contractual relationship with an independent installer. Once the SPPA contract is signed, a typical installation can usually be completed in three to six months.

An **investor** provides equity financing and receives the federal and state tax benefits for which the system is eligible. Under certain circumstances, the investor and the solar services provider may together form a **special purpose entity** for the project to function as the legal entity that receives and distributes to the investor payments from the sale of the systems kWh output and tax benefits.

The **utility** serving the host customer provides an interconnection from the PV system to the grid, and continues its electric service with the host customer to cover the periods during which the system is producing less than the site's electric demand. Certain states have net metering requirements in place that provide a method of crediting customers who produce electricity on-site for generation in excess of their own electricity consumption. In most states, the utility will credit excess electricity produced from the PV system, although the compensation varies significantly depending on state policies.

Read about the [City of Pendleton, Oregon's system \(PDF\)](#) (1 p, 282K, [About PDF](#)), for more information on how SPPAs work.


### Benefits & Challenges of SPPAs

#### **Benefits for host customer**

- No upfront capital cost.
- Predictable energy pricing.
- No system performance or operating risk.
- Projects can be cash flow positive from day one.
- Visibly demonstrable environmental commitment.

#### **Challenges for host customer**

- More complex negotiations and potentially higher transaction costs than buying PV system outright.
- Administrative cost of paying two separate electricity bills if system does not meet 100 percent of site's electric load.
- Potential increase in property taxes if property value is reassessed.

- Potential to make claims about being solar powered (if associated RECs are retained).
- Potential reduction in carbon footprint (if associated RECs are retained).
- Potential increase in property value.
- Support for local economy and job creation.
- Site lease may limit ability to make changes to property that would affect PV system performance or a  system.
- Understand trade offs related to REC ownership/sale.

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## SPPAs, Renewable Energy Certificates (RECs), and Green Power Partnership Eligibility

In order to claim a system's on-site solar electricity production towards the Green Power Partnership's [purchase requirements](#) a Partner must retain the associated [renewable energy certificates](#) (RECs) generated by the system. Partners should take care in making environmental claims that extend past what is conveyed by the associated RECs owned by the system host. For more information on solar, RECs, and associated claims, read [Green-e's Solar FAQs and Claims \(PDF\)](#) (8 pp, 42K, [About PDF](#)) fact sheet. [\[EXIT Disclaimer\]](#)

System hosts may choose to sell the RECs associated with the on-site solar PV system and in their place buy RECs sourced from other geographically eligible green power resources. In order to make environmental claims, this process is referred to as REC arbitrage and allows the site host to capture the financial benefits of solar RECs, while also making environmental claims and meeting the Partnership's [purchase requirements](#). For an in-depth discussion of RECs, review EPA's white paper on [Renewable Energy Certificates \(PDF\)](#) (6 pp, 996K).

### Added Reading

The resources below provide additional information on SPPAs.

- [The Rarus Institute's "The Customer's Guide to Solar Power Purchase Agreements"](#) [\[EXIT Disclaimer\]](#)
- [Webinar: Solar Power Purchase Agreements](#) [\[EXIT Disclaimer\]](#)
- [Solar Alliance](#) [\[EXIT Disclaimer\]](#)
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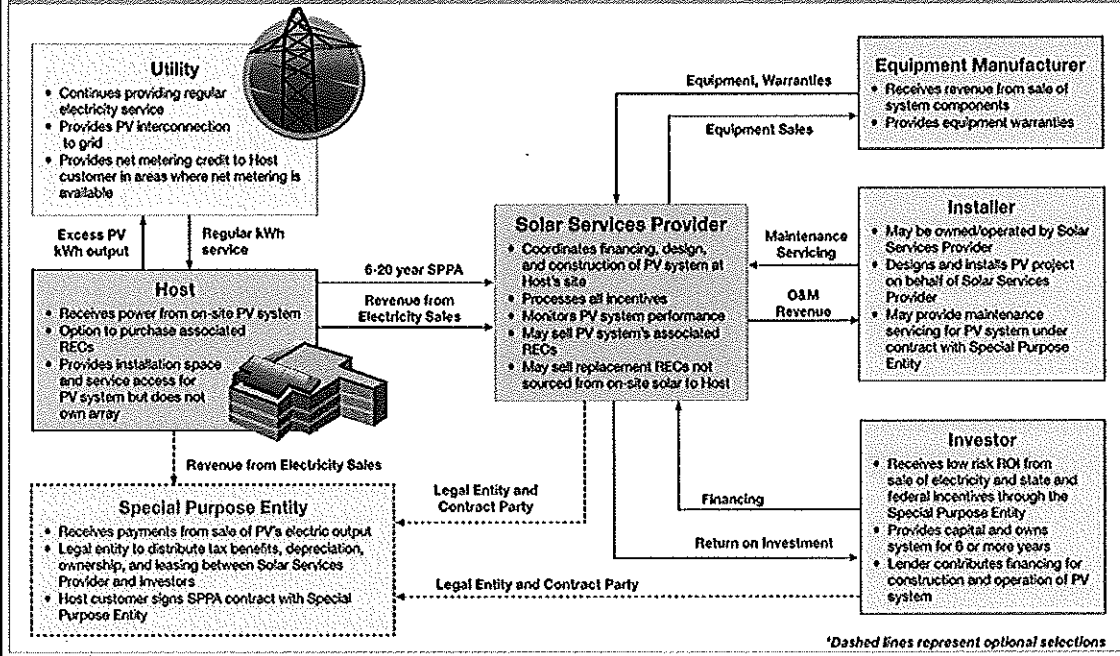
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**Solar Power Purchase Agreement Graphic**

**Roles of SPPA Participants**



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