

WINTERGREEN

WinterGreen is a monthly publication from **Steven Winter Associates** designed to keep you updated on the latest news and information regarding energy efficiency, sustainability, and high performance buildings.

SWA SVP MAUREEN MAHLE RECOGNIZED AS TOP 40 PROFESSIONAL

Presented by Professional Builder Magazine, the recipients of the annual 40 Under 40 Award are selected based on leadership skills, personal integrity and other professional attributes, as well as their recent portfolio of work completed. The award winners are featured in the March issue of [Professional Builder](#).

Along with directing SWA's sustainable housing services group, Maureen Mahle led the adaptation of the USGBC's LEED certification for midrise multifamily projects, co-chaired the national LEED Technical Committee, and served on the LEED for Homes v4 Working Group.

SWA has received the EPA's Indoor airPLUS Leader Award for two consecutive years running based on Ms. Mahle's efforts to raise practitioner awareness about the intrinsic tie between indoor air quality and occupant health. Always on the cutting edge of residential building science research, Ms. Mahle has supported SWA's efforts as a key member of the Consortium for Advanced Residential Buildings (CARB), a U.S. Department of Energy Building America research partner, providing inspections, testing, analysis and information dissemination of hurricane resistant housing, panelized construction technologies, and high-performance heating, cooling, domestic hot water, and ventilation systems.

Read the full press-release here: <http://bit.ly/1BQKKZ0>



CELEBRATING SUSTAINABILITY AT THE 14TH ANNUAL GREEN TIE AFFAIR

Over 500 building professionals, including five SWA employees, gathered at the 2015 Green Tie



Laying the "framework" for a sustainable DC

Affair in downtown Washington, DC to celebrate what promises to be a milestone year for sustainable building in the District. The celebratory evening was one of several preliminary events for the approaching Greenbuild International Conference and Expo. The conference will be held this coming November and over 30,000 participants are expected to flock to DC to learn about and support green building initiatives.

SWA proudly supported the evening's silent auction and a growing green building industry by donating building benchmarking services. All proceeds from the silent auction support the 2015 Legacy Project, a permanent community-oriented project in the conference city. This year's project, selected by attendee vote, is an Urban Food Studio providing cooperative gardening education and experiences to under-served populations in the local DC community. Greenbuild sees these projects as an opportunity to "improve the local community and leave a lasting legacy of sustainability and the mission behind Greenbuild."

SWA INFOGRAPHIC: 2014 YEAR IN REVIEW

SWA 2014... By the Numbers. [View our "Year in Review" Infographic!](#)



RECALCULATING SOLAR SAVINGS

Ten years ago, seeing a solar electric system on a building was noteworthy. Now they're popping up everywhere. Lower cost is obviously a big driver of this solar surge; photovoltaic (or PV) system costs have dropped 50-70% in the past 10-15 years. Over the past decade, SWA has helped developers and owners install PV systems on hundreds of buildings. The systems are reliable, they have no moving parts, and they will convert sunlight to electricity for decades.

The cost effectiveness of PV, however, is not always clear. In fact, SWA has seen a concerning trend where the cost benefits of PV are exaggerated. Although costs vary with region and application, a baseline range for installed cost of PV is typically \$4,000 - \$6,000 per kW Standard Test Conditions (STC).

Key federal incentives to consider:

- ◆ 30% Federal tax credit (currently)
- ◆ Accelerated depreciation (for commercial applications)

Other incentives vary greatly from region to region:

- ◆ State, local, and utility rebates or credits
- ◆ Sale of Renewable Energy Credits (RECs)

Federal and regional incentives can easily lower PV system costs by 50% – often more. Refer to The Database for State Incentives for Renewable Energy (www.dsireusa.org) for a comprehensive summary of incentives.

Now, let's consider the electricity savings. With PV generating electricity for your building, you'll be paying less to the utility provider. But how much less?



Roof mounted solar array



Solar: Savior or Suspect?

In the Northeast, each 1 kW STC will usually generate 1,000 – 1,200 kWh each year. Residential rates (i.e., for single-family homes or individually-metered apartments) are typically \$0.15 - \$0.25 per kWh.

Commercial electricity rates (including rates for multi-family common meters) are typically \$0.06 - \$0.12 per kWh. These accounts also pay demand charges on the order of \$15 - \$25 per kW for the highest period of usage each month.

PV systems offset electric energy charges, but do

they offset demand charges?

In our experience, the answer for multifamily buildings is often, "No." Multifamily building demand is usually fairly level, with small peaks occurring early in the morning (when residents wake up and head out for the day) and in the evening (when residents get home, lights go on, etc.). With most PV power generation taking place midday, there is little effect on neutralizing demand spikes.

PV obviously has a huge upside: it generates electricity cleanly and reliably, and there are plenty of building applications where PV systems make economic sense. To accurately assess viability, consumers must look beyond common assumptions when weighing costs and benefits of investment.

For more information on PV, please contact Robb Aldrich at raldrich@swinter.com

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