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## **TECHNICAL BRIEFING AT AEA PRESENTS PASSIVE HOUSE STANDARDS AND NEW MULTIFAMILY AND COMMERCIAL PASSIVE HOUSE PROJECTS**

### **Certified Passive House Tradesperson Lab is dedicated in New York City**

On November 15<sup>th</sup>, the Association for Energy Affordability (AEA) hosted an event that combined technical presentations of multifamily and commercial passive house projects with the formal opening of its Certified Passive House Tradesperson Lab in the Bronx.

The briefing was organized as a collaboration of the Passive House Academy (PHA) of Wicklow, Ireland, New York Passive House (NYPH) and AEA. Klearwall, a maker of attractive, high quality energy efficient windows and doors, sponsored the event.

“Passive House” is an efficient building standard that saves up to 85% on space heating and cooling. It is rapidly becoming a leading energy efficiency and comfort standard for all building types internationally. This 21 year-old standard has been achieved in over 40,000 projects, including multifamily properties, assisted living facilities, low-income housing, market-rate condominium developments, commercial properties, and schools, as well as single family homes.

“We are pleased to support the fast growing Passive House movement in New York and the US with internationally recognized certification training for both design consultants and tradespersons to provide a skilled workforce equipped to design, build and retrofit properties that meet the Passive House standard,” said AEA Executive Director David Hepinstall.

Adam Romano, AEA’s Director of Training Operations, moderated the briefing, which included an overview of the Passive House standard by Tomás O’Leary, co-founder and managing director of Passive House Academy, a contractor’s perspective on Passive House, and presentations by four designers and builders about their current and recent multifamily and commercial Passive House projects. Panelists discussed innovations and challenges involved in applying passive house principles to each project.

Mr. O’Leary announced the goal of achieving over 2 million square feet of passive housing by 2017 in New York City to stimulate new passive house production.

Sam McAfee of 475 Building Supply focused his remarks confronting the notion that building to passive house standards is more costly than conventional construction methods. “Building practitioners from varied backgrounds have all come to the same conclusion, and that is that high performance building gives you back control over a project’s budget while dramatically altering the costs to operate a building. PH is a truly revolutionary and simple approach to solving a serious problem to the benefit of everyone,” he said. He also described a mapping project he has undertaken to track passive house projects in New York City.

Tim McDonald of Onion Flats and its affiliated building and manufacturing firms in Philadelphia presented the ambitious and affordable modular approaches his firm is utilizing in a variety of passive house projects for both low-income and market rate housing. “What struck me about the event,” he observed, “was that we’re no

longer talking about Passive House a 'new', 'European', 'expensive' and 'boutique' approach to designing and thinking about buildings in the US. It's on the verge of being 'mainstream!'" Noting that passive house principles are "common sense," he cited Ben Franklin's dictum "The trouble with common sense is that it's not all that common," acknowledging that "we still have much work to do."

Robert Scarano introduced a nearly complete 6-unit passive house condominium project in Brighton Beach that is working its way toward multiple certifications and incorporating novel approaches to ventilation and soil remediation. "At a time when the world's morality and environment are competing to see which one collapses the fastest it is good to see that there are enough good people left to take in the ARK to rebuild the joint!" He credited his daughter's warnings about the need to revise the 100 year flood maps with influencing him to raise the height of the structure just enough to have avoided major damage from Storm Sandy.

Chris Benedict stated that "the Passive House movement has released a creative fury, and the new innovators are bringing these exceptional buildings in for the same price as typical construction." She presented a 24-unit multifamily passive house structure. One of the innovative construction methods she incorporated into her passive house design was to reposition the bearing walls along the shorter sides of the building, with intermediate parallel bearing walls on the interior, as opposed to bearing walls along the longer sides of the building as in typical construction. With the use of Syntheon's insulated curtain wall system on the longer walls, the building is able to achieve a higher envelope R-value without sacrificing building space. She described challenges posed by the position of the lot and surrounding structures that prevented orienting the building to capture optimal amounts of solar energy from the south.

Adam Cohen of Structures Design/Build in Roanoke, VA showcased several residential, educational and dental facilities built to the PH standard. Like some of his colleagues, he pronounced his projects as sufficiently air-sealed and insulated to rely solely on renewable energy and electricity for affordable heating. "It was fantastic to come from a remote area with a few projects and see the energy and excitement about this movement in New York," he said.

AEA and PHA have agreed to deliver both Passive House Consultant and Tradesperson classes at AEA's New York City facilities. The courses prepare students to take examinations for internationally recognized certifications from the Passivhaus Institut in Germany. PH Consultant classes for are taught by Tomás O'Leary of PHA at AEA's Midtown location, while the hands-on PH Tradesperson courses are held at AEA's Installer Training Lab in the Bronx. Tradesperson classes are taught by PHA trainers in conjunction with AEA's certified Passive House Tradesperson trainers Adam Romano, Kevin Brennan and Nate Price.

Following a question and answer session, Adam Romano and other AEA trainers walked attendees through the features of the model passive house and other models and mock-ups used for installer training at the Lab, AEA's next Passive House Tradesperson course will begin on **January 21<sup>st</sup>**, followed by a PH Consultant course on **January 30th**.

Thursday's briefing was attended by some 70 persons including architects, contractors and developers from across the Northeast. Following the event, Jim Evans of Klearwall paid tribute to the presenters for "espousing a building method that, by redistributing the cost of building or renovating as opposed to increasing it, can produce a residence that will save its owner 70% of the building's utility expense, and at the same time can improve the building's comfort and reduce its carbon footprint. What is not to like about this win, win, win?"

Briefing organizer Tomás O'Leary proclaimed "The 2 million square feet Passive House target set for NYC by 2017 is going to be completely smashed!"

## **About the presenters**

Tomás O'Leary is co-founder of the Irish Passive House Academy and a Director of MosArt Architects. Beginning his professional career as a Landscape Architect, he developed a keen interest in Passive House in 2002, building his own and (Ireland's first) Certified Passive House in 2004. He co-authored the SEI new-build Passive House Guidelines (along with UCD ERG) and drafted the SEI retrofit Passive House Guidelines. He is accredited by the Passivhaus Institut to Certify Passive House projects, is a member of the (extended) European PASS-Net project founding member of the Irish Passive House Association.

Sam McAfee CPHD and the other founders of 475 Building Supply began working together on a Passive House townhouse retrofit project in Brooklyn. It became apparent to all three during the retrofit that the building supply marketplace was not adequately servicing such high performance construction projects. Product selection and availability were limited, and there was little knowledge of what matters to high-performance construction. Knowing that the US marketplace needed products and knowledge, information and service that had existed in Europe for years, the three determined to address this service gap directly, across the American marketplace, with Four Seven Five (475), a division of Passive House Center Inc. (PHC Inc.) a company dedicated to transforming American construction to high comfort/low energy building guided by Passive House standards, and other up-to-date building science information. The company's name is a reference to the Passive House annual heat demand requirement of 4.75Kbtu/sfyr.

Timothy McDonald, RA, CPHC, is the President and CEO of Onion Flats LLC, a Philadelphia based real estate development/design/build firm. Tim is a licensed architect in Pennsylvania and New Jersey. He has served a variety of architectural, civic and educational institutions. Tim's role is Lead Architect and Construction Manager for many of Onion Flats' projects. In 2005, Tim and his partners have formed a family of related firms including Plumbob, LLC and JIG, Inc., allowing this team to provide full design-build services for both clients and their own developments.

Robert Scarano, RA, CPHD is Principal Architect of Scarano Architects, PLLC, a Brooklyn architecture firm.

Chris Benedict, RA has long been a leader in healthy, durable, multifamily buildings in New York City. Awarded Environmental Professional of the Year by the International Association of Energy Engineers in 1999 for her work, her buildings feature innovative exterior wall and roof systems that exploit thermal mass to save energy and improve comfort, innovative ventilation systems, affordable rain water management and mold proofing, provides passive solar heating with room by room temperature controls, assures good indoor air quality with fresh air management and incorporates extensive soundproofing. Her buildings use 85% less energy for heat and hot water and 50% less electricity than a typical building for the same price as typical construction.

Adam Cohen is a twenty five year veteran of the low energy and ecological building movement. He holds a degree in Architecture, is a Certified Passivhaus Consultant, a LEED AP and NAHB Green Professional. He has served as a reviewer for over 40 Dept. of Energy grants based on his expertise in high performance thermal envelope design. Mr. Cohen grew up building with his family, beginning his solo career as a stone mason. He has been in design/build for over two decades, creating unique structures that have won national awards. In the past, Mr. Cohen only designed buildings he could build, but in an effort to encourage and foster the growth of the Passivhaus movement in the United States, he is offering his consulting and design services in all regions of the United States.



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## About the organizers

**Passive House Academy** was established by Tomas O’Leary and Art McCormack who have been active in the Passive House arena for almost a decade. The Academy has a dedicated team of six full time specialist trainers who have earned a strong reputation for delivering highly stimulating training. This team is also heavily involved in the design, detailing and official Certification of Passive House projects, so their teaching is very much informed by on-the-ground practice.

**NY Passive House (NYPH)**, formed in 2010, is an independent not-for-profit organization that facilitates the exchange of information and experiences, among local, national and international practitioners of the Passive House building standard. NYPH works to promote a healthy, comfortable and energy-efficient built environment through the promotion of the Passive House building standard.

**The Association for Energy Affordability (AEA)** is a nonprofit training and energy services organization headquartered in New York City. AEA provides technical courses for energy professionals, contractors and workers to help them develop or expand their skills to make buildings more energy efficient. Students include energy auditors and analysts, workers involved in new construction or installing energy efficiency upgrades, weatherization workers, contracting company managers, and staff of public and utility energy efficiency programs. AEA courses prepare trainees for industry certifications from the Building Performance Institute, the Air Barrier Association of America, and the National Renewable Energy Laboratory (NREL) as well as the Passivhaus Institut. AEA also offers certificate courses for experienced workers and green job seekers. AEA implements a wide range of government and utility funded energy efficiency programs and provides energy audits and engineering services for a large network of partners and clients, and its trainers draw on this extensive experience to provide unusual depth and breadth in its training.

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