



Microgrid Design for Multifamily with PHIUS+ as Baseline
How to plan and design a 4 unit multifamily microgrid project step by step
Thursday, Sep 20, 2018 8:00am-5:00pm
Seaport Hotel & World Trade Center
One Seaport Lane, Boston, Massachusetts 02210

7:00 am Registration open

Agenda Morning Session: Demand Side Load Management

8:00 am **Welcome and Introduction:**

John Sarter, Principal, SolLux Alpha, Katrin Klingenberg, Executive Director, PHIUS

8:15 am **The crucial role of passive as baseline:** *The passive building envelope as capacitor for the new grid*

Lisa White, Certification Manager, PHIUS

8:45 am **Microgrid on a community scale – a Chicago IL case study:**

Brandon Weiss, Principal, Evolutionary Home Builders

8:45 am **Renewables, storage, grid connection:**

Ani Backa, Sonnen

9:45 am **Break**

10:00 am **Four unit case study, first MF PHIUS+ Source Zero microgrid project SolLux Alpha, San Francisco, CA:** *Why passive + micro grid is an appealing idea to a developer*

- SolLux Alpha case study – PV canopy, battery storage, EV charging and grid connection/interaction/economics (John Sarter)

John Sarter, Principal, SolLux Alpha

10:45 am **Passive design and demand reduction example SolLux Alpha**, Lisa White, Certification Manager, PHIUS

- WUFI Passive software tool demonstration on how to meet PHIUS+ 2015/18 climate-tailored and cost optimized standards (Lisa White)
 - Most effective passive design and envelope optimization strategies
 - Most efficient systems choices and optimization
 - Identify total remaining energy needs after designing to PHIUS+2015/18 for afternoon renewable and storage sizing for afternoon session

12:00 am **Lunch (at restaurants in vicinity)**

Agenda Afternoon Session: Designing for Zero and Positive Energy

1:00 pm **Integrating renewables and storage into passive house design:**

Marc Rosenbaum, Director of Engineering, Co-Owner, South Mountain Company

- Passive house energy end use analysis and break down
- Renewable energy generation potential estimate by climate and array orientation
- Timing of energy vs loads
- Energy use data for mechanical systems

2:30 pm **Break**

2:45 pm **PV system and storage design, connection to the grid**

- PV systems product types, configurations, characteristics, installation specifics (Marc Rosenbaum)
- How thermal and battery storage affect system design (Marc Rosenbaum)
- Grid connection and EV charging (Marc Rosenbaum)

- Questions and Answers

4:30 pm **Closing Comments and Wrap Up:**

Marc Rosenbaum, John Sarter, Katrin Klingenberg