

**EEAC 2019-2021 Three Year Plan Revision 9/14/2018 Comments**  
9/24/2018

Comments by Michael Duclos

Certified Passive House Consultant, PHIUS Plus Rater, HERS Rater with the MA New Construction Program since 2009, a founder of Passive House Massachusetts, Energy Raters of Mass. Energy Efficiency Associates, and the DEAP Energy Group.

Thank you for the opportunity to offer comments on the 9/14/2018 revision three year plan.

In the proposed plan, I am encouraged to see more articulation of support for undertaking the task of learning and properly applying Passive House technology to the multiple issues we face.

I sincerely hope that key members of the EEAC and technical staff of the lead vendor were able to attend the North American Passive House Conference at the Seaport last week, it was an extraordinary opportunity to see the 'state of the art' in US Passive House technology, including:

Predicated and actual performance data from two new construction multi-family PH projects, with numerous lessons learned for future optimizations.

An outstanding session on multifamily building cost reduction techniques including whitepapers, targeting both cost reduction and design for Passive House.

Solving conflicts between ASHARE 90.1 and PHIUS energy modeling, with many 'lessons learned,' of particular interest for building design, and the current practice of calculating incentives.

Approaches to responsibly selecting building materials to avoid Indoor Air Quality issues.

Quick assessment of modeled day lighting efficacy to aid in the reduction of lighting loads.

Interpreting data from multiple studies and identifying numerous 'root causes' of serious performance deficiencies in the use of mini-split heat pumps. Deficient performance appears to be a fairly widespread issue. Understanding the issues observed in reality is invaluable to efficient future installations, which may incur a large expense to correct after the fact.

A simulation study of winter and summer 'passive survivability' - the ability of residents to 'shelter in place' during the increasingly common, longer term grid outages, in order to define a passive survivability protocol and criteria.

Strategies for 'mainstreaming' the adoption of Passive House technologies for multifamily buildings.

Optimizing both the design of Passive House multifamily buildings and their associated PV production and battery systems to deliver building with a light touch on the grid – minimizing both annual and peak load conditions.

I am encouraged to see the EEAC making some progress toward embracing Passive House technology. What I see in this newly revised draft plan are the early stages of learning about Passive House technology, absent an in-depth understanding of the language, and real world design, implementation, verification and monitoring feedback experience I see as crucial to the effective application of this technology. It is my opinion that absent this in-depth knowledge, and experience, managing a Passive House program will deliver much less than optimal results.

Hopefully the many involved in managing and implementing this program will have attended the technical session and networking opportunities at the 13<sup>th</sup> North American Passive House conference last week at the Seaport to jump start their learning experience.

Thank your for the opportunity to provide comment, please do not hesitate to contact me if there are any questions.

Best Regards, Michael Duclos

3 Birch Hill Road  
Stow, MA 01775  
[mduclos@deapgroup.com](mailto:mduclos@deapgroup.com)  
978-793-3189