One critical aspect of building performance is shading. With a properly designed building shell, the amount of solar radiation hitting the building’s opaque surfaces usually aren’t a problem. However, the windows are the weakest link in the shell. The presence or absence of shading can have a huge impact on cooling and heating loads, even with excellent quality windows.

You can control radiation intrusion to a certain extent by tuning the solar heat gain coefficient (SHGC), that glazing property that determines how much sunlight enters the building. However, additional radiation management may be needed to keep the building comfortable throughout the year. For instance, you may want more sunlight entering during the winter and less during the summer. With proper shading design and analysis, you can guarantee that a building stays comfortable all year while at the same time minimizing heating and cooling loads.
**$1000 CPHD SCHOLARSHIPS**

PHCA is offering discounted training to So. Cal Edison (SCE) customers
If you are an active So. Cal. Edison (SCE) customer, send an email to info@passivehousecal.org to apply for a $1,000 dollar discount on the Certified Passive House Designer/ Consultant training. Applicants must be in the SCE regional territory and demonstrate being a qualified professional focused on designing multifamily market-rate and affordable housing projects. Only 5 spots are available so act quickly. This is your best way to expand your knowledge of how you can use Passive House Design to achieve the Carbon reduction goals of today! Apply Now!

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**PHCA Monthly epiPHany**

**Do Pass/Fail Choices Deliver Optimum Performance?**

Even though it seems intuitively obvious that the logical answer is **NO**, a surprisingly high percentage of decisions regarding the design and construction of new homes are made on a Pass/Fail basis. “Building to code”, means complying with at least the minimum acceptable requirements in the large number of specific areas where compliance is required. Code is a Pass/Fail system and if a building does not meet one or more of those minimum requirements, it fails.
“Quality is more than the absence of defects...” This anonymous quote is both accurate and applicable to building codes, which are crafted to avoid known defects and/or unacceptably inferior standards and do protect the public from many bad choices. However, they do not incorporate the second part of the quote, “...it is the presence of value.” Avoiding things that are defective or wrong is a good tactic but choosing something above the minimum acceptable in order to gain something of value can also be important.

When homebuyers contract for the design and construction of a custom home, or select a house plan from a developer, they are generally very involved in selecting appliances, furniture, fixtures, finishes and other components or systems that will have an impact on their lifestyles in the home. However, these same homebuyers are often fine with their designers and/or contractors “complying with code” for other elements that, while not visible, can have negative impacts on comfort, health, and sustainability.

An illustrative example:

Codes are evolving toward increased level of airtightness, to improve operational energy efficiency. Homes do not necessarily “need to breathe”, but occupants do, so in order to ensure continuous fresh air for occupants, California code now requires “mechanical ventilation” to bring in that fresh air. A newly constructed home that does not have mechanical ventilation, is not code compliant and fails to pass approvals and inspections.

Unfortunately, the requirement for mechanical ventilation can be met by installing one-or-more bathroom fans that are set to run all the time, continually depressurizing the home. It is true that the bathroom fan approach results in a continuous flow of “replacement air”, but much of that air is being drawn into the home through existing leaks in the envelope. Unfortunately, that replacement air is not necessarily “fresh”, nor is it filtered. A significant portion comes up from the crawlspace through leaks along walls, stairs, and around electrical sockets, down through ceiling lights and other unsealed leaks between the attic and the conditioned space, and through leaks in the heater or AC ducting. This unfiltered air from unknown sources nearly always contains significant amounts of airborne pollutants and allergens. The bathroom fan approach provides replacement air, is code compliant and passes the Pass/Fail scenario, however a balanced mechanical ventilation system provides an equal amount of fresh air (which can be filtered if desired) to continually replace the stale air being expelled and is a much healthier and responsible choice.

Evidence supporting the example:

Most of us have seen light colored carpets with dark areas along the base of the walls or edges of the stairs. This is not because the vacuum does not reach the edges. It is because the carpet is acting as a filter and catching, at least some, of the airborne pollutants and allergens that are being brought in with the air being pulled from the crawlspace. The two photographs below illustrate the problem.

Some of the airborne particles get trapped and discolor the carpet along the base of the wall and the
edges of the stairs. However, the majority of those particles are suspended in the air that occupants are breathing, and children, whose lungs are more sensitive, are breathing the air from much closer to the floor and stairs.

Homeowners who default to code compliant do benefit from the absence of known defects, but often miss opportunities to enjoy the presence of value related to health, comfort, durability, resilience, and other positive performance attributes. Passing with a grade of D rather than a grade of A or B is definitely not optimum performance.

By Jay Gentry

**SHOW US YOUR CA PASSIVE HOUSE BUILDING**

WE WANT TO SEE YOUR PASSIVE HOUSE PROJECTS IN CALIFORNIA!

We would like to include and possibly showcase your project on the new Passive House California (PHCA) website and post your work on our PHCA social media platforms. If you or anyone involved in your Passive House project is a member of PHCA, please consider submitting the project for inclusion in the Project Database on the PHCA website.

(Note: All projects shall be in the compliance with Passive House Institute (PHI) requirements and have a verified Passive House Planning Package (PHPP)).

Click Here to Learn More
The awardees of the 2021 Passive House Award were full of joy as Jan Steiger of the Passive House Institute presented the Award in the Historic Town Hall of Wuppertal. Most of them were present via a video stream and viewers were able to contribute to the celebratory atmosphere during the live broadcast of the conference. “Buildings constructed to the Passive House standard require much less energy and significantly lower emissions are produced over their life-cycle. This exactly is vital for effective climate protection. All winners are a perfect example of how an extremely sustainable building standard can be implemented with high architectural quality and in completely diverse ways”, explains Jan Steiger, one of the managing directors of the Passive House Institute.

Image: Perkins and Will, SoLo House Special Recognition Single Family Home

Check Out the Winners!
2022 NAPHN PASSIVE HOUSE CONFERENCE: CALL FOR PAPERS

Our world is in a climate emergency. We know buildings are giant contributors to the crisis and therefore our buildings, new and existing, must be turned into climate emergency first responders, now. The building industry’s business-as-usual methods must end. But what can replace it, and how?

If you’re an architect, engineer, builder, consultant, owner, lender, policymaker, community activist, or simply a concerned person, we invite you to submit your ideas and your proposals for topics, speakers, and formats for our 2022 Passive House conference.

The submission deadline is December 1, 2021.

IPHA WEBINAR
October 13 9AM-10:30 AM PST ONLINE

Are you planning to repair part of a building, e.g. install new roofing because the old one is leaky? Then don’t jump the gun... step back and make a plan for the whole building first! Experience from all over the world proves, that retrofit of old buildings with Passive House components can lead to a dramatic reduction in energy costs for heating and cooling. But in phased retrofits an overall plan for all future renovation measures is vital for excellent results in energy savings, comfort and cost efficiency. Zeno Bastian will present the “EnerPHit Retrofit Plan” and other helpful tools Passive House Institute has developed to support you with this.

PHCA MEMBERSHIP
PASSIVE HOUSE CALIFORNIA MEMBERSHIP
Consider becoming a member or recommending a friend for some new benefits:

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PHCA Job Board:

- Only Members & Sponsors can post employment opportunities/jobs
- Everyone can see the professional postings

Check it out!  https://passivehousecal.org/jobs/

Post a Passive House job or project that you need help with:

- Everyone can post
- Only Members can see and respond as a membership benefit

Need help with a Passive House project in California? Are looking for a Passive House Consultant (CPHD/C), Contractor, Architect, Certifier, sourcing PH-related building products and systems — or finding PH trained/experienced staff for your project or business? We are here to make it easier for you to connect and collaborate. Post information about your Passive House-related project or job here. All members of our professional PHCA community will be able to see your request and reply to explore whether and how they can be of assistance to you. Once you submit your project, PHCA will review and post your “PH Project or Job” so that Passive House California Professional members can learn about your needs and respond accordingly. Happy collaborating and accelerating the transition to Passive House standards.

Check it out!  https://passivehousecal.org/post-a-job/

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·ON DEMAND TRAINING·
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It’s the same robust core Passive House Designer Training but newer and better! The training content has been updated with market-ready information, plus now there is added flexibility with self-paced learning. This training is appropriate for a wide range of building professionals and stakeholders that want to know the guts of what makes Passive House tick and build a foundation of knowledge to integrate Passive House to meet personal goals. Participants include architects, MEP and structural engineers, facade, energy and sustainability consultants, contractors, developers, policymakers, regulators, and more. For a full course description, pricing & registration see below.
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Passive House California is a member of the International Passive House Association and proud to cooperate and collaborate with the global Passive House community including Passive House Institute and The Passive House Network.