

**DOCKETED**

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**From:** [Thomas Phillips](#)  
**To:** [Energy - Docket Optical System](#)  
**Cc:** [Kevin Hamilton](#); [marquello@psr-la.org](mailto:marquello@psr-la.org); [Bob Gould PSR](#); [Alice Sung](#); [Brady Seals](#); [Panama Bartholomy](#); [Sean Armstrong](#); [Steve Nadel](#); [Jenniffer Amann](#); [Amy Dryden](#); [jmadsen@builditgreen.org](mailto:jmadsen@builditgreen.org); [Linda Rudolph](#); [asnwyder@atlanticcouncil.org](mailto:asnwyder@atlanticcouncil.org); [Joseph Allen](#); [Evan Mills](#); [JLEMC@sen.ca.gov](mailto:JLEMC@sen.ca.gov); [amee@apen4ej.org](mailto:amee@apen4ej.org); [info@thegepi.org](mailto:info@thegepi.org); [matt@littlemanila.org](mailto:matt@littlemanila.org); [Jenae Bjelland](#); [aschroer@nascsp.org](mailto:aschroer@nascsp.org); [Taylor, Leslie@CSD](#); [mrincon@psr-la.org](mailto:mrincon@psr-la.org); [Maria Stamas](#); [mosenthal@optenergy.com](mailto:mosenthal@optenergy.com); [socks@optenergy.com](mailto:socks@optenergy.com); [Elisabeth Krautscheid](#)  
**Subject:** Re: Insurance issues, 19-SB-100 and SB100 Non-Energy Benefits (NEB), Social Costs and Reliability Analysis comments  
**Date:** Saturday, November 13, 2021 2:16:36 AM

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Dear CEC, CPUC, and CARB staff:

Re: NEBs and the SB 100 Clean Energy [Nov. 1 Workshop](#):

In addition to the comments submitted earlier (see below), please consider these game changing developments in climate impact insurance in CA, hot off the presses.

California considers ranking heat waves after Times investigation into extreme heat deaths, 11/12/21

<https://www.latimes.com/california/story/2021-11-12/heat-wave-ranking-system-proposed-for-california>

‘... Alongside the new legislation, the state Department of Insurance plans to **calculate the hidden cost of heat waves**, which will look at the so-called **protection gap** between losses that are covered by insurance and those that aren’t, Lara said. The study will take into account **costs to local governments**, such as losses from uninsured people suffering heat-related illnesses and disruptions to electricity services, he said.

“Currently we don’t track these losses like we do with any other major climate events such as wildfires or hurricanes,” he said, adding that calculating the gap is the first step toward closing it.

California leaders announce first-in-nation ranking of heat waves, 11/12/21

<https://sd27.senate.ca.gov/news/20211112-california-leaders-announce-first-nation-ranking-heat-waves>

California Insurance Commissioner Proposing Heat Wave Ranking System, 11/12/21

<https://www.insurancejournal.com/news/west/2021/11/12/642121.htm>

The CA Dept. of Insurance will also “undertake a study to **identify the extreme heat insurance “protection gap” in healthcare and other areas** for affected communities in Southern California, which is another recommendation from the Climate Insurance Working Group’s report.

NOTES:

— CA should also consider **liability lawsuits** due to overheated buildings (which have already occurred in CA) and future deaths, hospitalization, and productivity loss from

overheated buildings during power outages & heat waves.

— We need **good housing characteristics data** to accurately assess and map heat health vulnerability and to help target building retrofit efforts.

— Germany has an indoor heat warning system that appears to be having some beneficial effects. UK researchers have also developed another types of indoor heat warning system.

— The root causes and risk factors of extreme heat health impacts, **both indoors and outdoors**, under current and future climate have been fairly well known for several years (see links to articles & presentations below). However, a set of effective strategies to reduce the public health risks for Californians indoors has not been modeled or tested to date, and the CIWG report below does not address current best practice in this area.

MORE INFO:

**Extreme Heat Resilience Alliance**, <https://www.onebillionresilient.org/post/extreme-heat-resilience-alliance-reducing-extreme-heat-risk-for-vulnerable-people>, 8/4/20

And <https://www.onebillionresilient.org/post/extreme-heat-resilience-alliance-update>, 9/30/20

Climate Insurance Working Group (CIWG), July 2021. "Protecting Communities, Preserving Nature, and Building Resiliency; How First-of-Its-Kind Climate Insurance Will Help Combat the Costs of Wildfires, Extreme Heat, and Floods." <https://www.insurance.ca.gov/cci/>. **See p. 52 + re: Extreme Heat costs & recommendations.**

**CA Joint Legislative Committee on Emergency Management**, Oversight Hearing, **Climate Disaster Risks and Inequity**, July 21, 2021. **Report, summary, presentations, and video.** <https://jtemergencymanagement.legislature.ca.gov/>.

**Growing Liability** and SF Condo overheating lawsuit:

— Roaf et al. 2015. Designing for comfort at high temperatures.

[https://www.researchgate.net/publication/271020877\\_Designing\\_for\\_comfort\\_at\\_high\\_temperatures](https://www.researchgate.net/publication/271020877_Designing_for_comfort_at_high_temperatures), <https://doi.org/10.1080/00038628.2014.972069>

— <https://therealdeal.com/2021/07/28/nearly-10m-settlement-for-cooked-sf-condo-owners/>

**Costs of cooling CA K-12 schools due to climate change** (Center for Climate Integrity, Sept. 2021. **Hotter Days, Higher Costs: The Cooling Crisis in America's Classrooms**)

— \$2.5 B to install or upgrade cooling systems (not including other energy efficiency measures)

— \$220 M to operate and maintain the systems

— 5 M students affected

— Report (US and state results): CA results: <https://coolingcrisis.org/uploads/media/CCI-StateReport-California.pdf>

— Interactive map of costs and heat days by mid century, <https://coolingcrisis.org/>

— LA USD ranked 4th highest school district in O&M costs (\$12.5 M/y); 422 K students impacted. Three more CA school districts are also in the top 10.

<https://coolingcrisis.org/rankings>

— San Diego profile, pp. 58-59. Total net energy consumption reduce over the last five years by increasing its renewable energy production with new solar energy systems and energy efficiency projects, including HVAC systems.

<https://coolingcrisis.org/uploads/media/HotterDaysHigherCosts-CCI-September2021.pdf>

I look forward to hearing your response.

Tom

On Nov 12, 2021, at 5:00 PM, Thomas Phillips <tjp835@sbcglobal.net> wrote:

Thank you for holding the workshop on Non Energy Benefits. Please consider the following general comments:

1. Include the NEBs of energy efficiency in your modeling scenarios, because energy efficiency is a key first step in reducing carbon emissions and decarbonizing our buildings and power grid. Low income weatherization programs can produce improvements in improved thermal comfort, indoor air quality, health, safety, and energy equity that can be quite substantial. The workshop presentations and modeling plans do not appear to seriously consider these impacts.
2. Consider NEB utility programs in other states. Consult analyses by RMI, ACEEE and others.
3. Factor in the efficiency impacts on reduced peak demand and downsizing of HVAC and PV systems.
4. Factor in the rapidly growing average and peak demands for cooling due to climate change.
5. Factor in the benefits of energy efficiency (passive and active) on short term passive survivability during power outages and long term energy, carbon, and cost savings. Consider also the avoided costs of installing backup generators in a large number of homes and other buildings.

I can provide supporting information as needed.

Sincerely,  
Tom

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Thomas J. Phillips  
Healthy Building Research, Davis, CA; [CHPS.net](http://CHPS.net) Technical  
Advisor  
[tjp835@gmail.com](mailto:tjp835@gmail.com), 530.220.4854

**CLIMATE RESILIENCE, ADAPTATION, & MITIGATION (CRAM)**  
Adjusting for New ABNORMALS: Adapting Buildings to Extreme Heat and  
Power Outages ([Phillips and Higbee, 2021](#). EEBA High Performance Home  
Summit)

Climate Adaptation and Resilience credits, Collaborative for High Performance Schools Core Criteria, National and California Criteria ([CHPS 2019, 2020](#)).  
Adjusting for New Normals: Adapting Buildings to Extreme Heat and Power Outages ([Phillips and Higbee, 2018](#)). Conference on Health, Environment, and Energy, ACEEE. 2020 update, available on request.  
The Heat is On: Future Proofing Buildings for Climate Change ([Phillips, 2017](#). Presentation at Beyond Energy Efficiency 2017, Build It Green).  
Overheating and passive habitability: indoor health and heat indices ([Holmes, Phillips & Wilson, BR&I 2016](#))  
Achieving Sustainable, Resilient Homes ([Phillips, 2014](#). Inst. of Medicine, Post Disaster Recovery Workshop)

Bigger, Longer Heat Storms Are Coming Soon: Will Your Building Keep Its Cool? ([Phillips, 2013](#). Resilient Design Institute)

Indoor environmental quality research needs for low-energy homes ([Phillips & Levin](#), STBR 2015); Levin & Phillips, 2011, Indoor Environmental Quality: Research Roadmap 2012–2030: Energy-Related Priorities, [CEC Final Report # CEC-500-2015-012](#)