

You are receiving this newsletter because you or an organization you are affiliated with has subscribed to receive monthly updates from CIEE. Please circulate relevant information to students, faculty, and staff.

University of California ciece SENTINEL



Vol XIII. November 2019

Fall is in the air, and the CIEE Sentinel returns for another issue! Read on for a very green infrastructure and electrical grid-oriented issue of the CIEE Sentinel.

upcoming **EVENTS**

Wednesdays through November
[CITRIS Research Exchange](#)
November 17th-20th
[BECC Conference](#)

in the **NEWS**

[Supreme Court Lets Climate Change Lawsuit Proceed](#)

[Climate Change Making Stronger El Ninos, Study Finds](#)

CIEE NEWS



2019 BECC Conference: Scaling Up

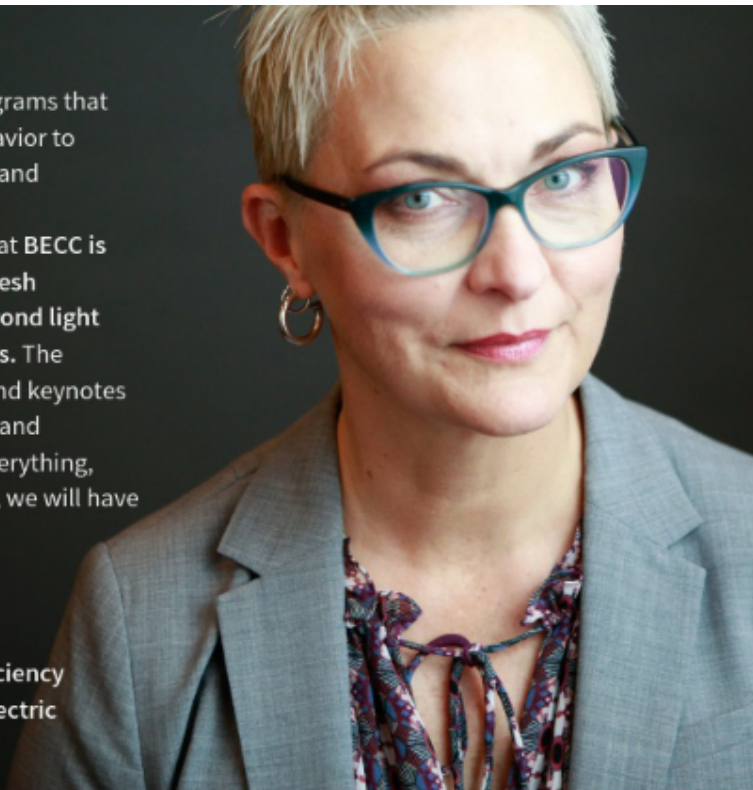
This month, the BECC conference will kick off at the Hyatt Regency in Sacramento. Come join CIEE, the American Council for an Energy-Efficient Economy (ACEEE), and the Stanford Environmental and Energy Policy Analysis Center for an unforgettable three days of education, networking, and coming together to help push back against the climate problems facing the globe.

For those who aren't familiar, the Behavior, Energy & Climate Change (BECC) Conference is the premier conference that brings together researchers, policymakers, utilities, and businesses focused on energy and behavior to advance knowledge and actionable climate solutions. This year's conference will be held from November 17th-20th, at the Hyatt Regency in Sacramento, California.

"As an implementer of programs that aim to help shift human behavior to reduce energy consumption and ultimately our impact on the environment, I appreciate that BECC is the conference that offers fresh approaches that go well beyond light bulbs and smart thermostats. The workshops, presentations, and keynotes get to the heart of the issues and recognize that behavior is everything, and if we can shift behaviors, we will have a much bigger impact."

Susan Norris

Senior Manager, Energy Efficiency
Products, Pacific Gas and Electric



The theme of this year's conference is "Scaling Up". With many ecosystems at the brink of collapse, the need to mitigate climate change is more urgent than ever. BECC has been at the forefront of supporting behavioral research to address climate and energy issues for

more than a decade. Now is the time to take these established principles and practices and scale them up. Scaling up means looking at the big picture, adapting small interventions for broad application, working with others, addressing policy, and generally taking climate action to the next level. In 2019, through regular and special sessions, we plan to showcase research, programs, organizations and people that help move toward a sustainable energy and climate future.

This year's keynote speaker is Phil Sharp, a fellow with the Center on Global Energy Policy at Columbia University's School of International and Public Affairs. Dr. Sharp, who served as President of Resources for the Future from 2005 until 2016, has a distinguished record across energy and environmental research and policy. During a 20-year congressional tenure as a member of the U.S. House of Representatives from Indiana, Dr. Sharp took key leadership roles in the development of landmark energy legislation including the Energy Policy Act of 1992 and the Clean Air Act Amendments of 1990. After leaving Congress, Dr. Sharp was a member of the National Research Council's Committee on Effectiveness and Impact of Corporate Average Fuel Economy (CAFE) Standards and he chaired the Secretary of Energy's Electric Systems Reliability Task Force.

If you'd like to join us this November, it's still not too late to [register](#)!





Oakland's Clean Energy Economy Strategy

On the Meeting of the Minds, an urban infrastructure collaboration focused on sustainability, Daniel Hamilton, the Sustainability Director of the City of Oakland, published an editorial on Oakland's plans to build climate solutions that meaningfully help address social issues as well. "In my city of Oakland," he writes, "climate change policies and programs are a core approach to creating jobs, raising wages, addressing historical inequities for women and minorities, and improving the quality of life for all. In the battle for the soul of a nation, cities like Oakland are showing that the clean energy economy is America's best strategy for creating a prosperous and better tomorrow."

One of the major avenues Oakland is currently pivoting towards sustainability is by heavily limiting the creation of natural gas infrastructure in new buildings. Greenhouse gas emissions from natural gas exceed the amount generated by coal in the United States, and the health dangers related to its transmission, storage, and use disproportionately affect folks from low income communities, where gas infrastructure is more common. Oakland, working together with other cities, product manufacturers, regulators, and utilities across California under the Building Decarbonization Coalition, is expected to either severely limit or end entirely the construction of natural gas infrastructure in newly constructed buildings by 2020.

Electrification infrastructure is not limited to the elimination of natural gas infrastructure alone. In fact, Oakland is the primary partner with CIEE for our EcoBlock project, and will be the site for our first practical model. The EcoBlock project will retrofit an existing Oakland city block with an interconnected electrical microgrid, powered by on-site solar generation. Should this project prove successful, it represents a significant path forward for local, sustainable energy generation, in a way that is both feasible and accessible for low-income communities that can't traditionally afford to implement solar generation and storage in their homes.

To read the full article, click [here](#). If you'd like to learn more about the EcoBlock project itself, please visit our [website](#)!

monthly SPOTLIGHT



(AP Photo by Rich Pedrocini)

CIEE In the News: Dr. Sascha von Meier interviewed on PG&E Outages, Grid Resiliency

In the wake of the planned power outages PG&E implemented affecting nearly 800K California citizens across Northern and Central California, the vulnerabilities of an aging statewide electrical grid are becoming more and more apparent. A core research thrust of CIEE is grid modernization; namely, to create a modernized and modular, intelligent and resilient electrical grid.

At the cutting edge of that work is Dr. Alexandra "Sascha" von Meier, adjunct professor of electrical engineering and computer science at UC Berkeley and CIEE's director of our

Electric Grid research. One of the biggest projects she is currently working on is the Ecoblock project, alongside fellow CIEE researcher and Deputy Director Dr. Therese Peffer. The Ecoblock project imagines an interconnected electrical grid on a local level, where a dozen or so homes are all wired into the same solar generation system independent from the larger PG&E grid with local storage. A system like that, therefore, would circumvent the aging infrastructure of the larger grid, insulating communities from the ravages of power outages in a much more affordable system than individual customers buying solar and power storage systems on a household-to-household basis.

And after PG&E directed power outages across the state this month, appetite for an alternative was piqued.

In the aftermath of the blackouts, Dr. von Meier was interviewed by NPR. In a segment entitled "Are Blackouts the Future For California?", she discusses things that can be done right now to improve the electrical grid, and the current problems keeping it from fully modernizing. One smart tool that grids can implement to improve grid status reporting is very familiar to CIEE: the synchrophasor. Networks of synchrophasors can be installed throughout the electrical grid; sensors that can report the status in real time to grid operators.

"The sensors can detect if a line is broken and then within a split fraction of a second, shut the power off to that line before it hits the ground," von Meier said.

In an interview for Berkeley News, however, she spoke more on the subject of potential alternatives: locally sourced power, and potentially the EcoBlock:

"A big problem right now is that we have a whole lot of solar photovoltaics installed on people's rooftops, but in an outage situation like this, almost all of them are useless because they can't be safely energized. That's because, by rule, by the interconnection agreement, when the power in your neighborhood is out, your solar inverter also has to be shut off, unless you invested in a whole separate system where you have a battery at your house, and you disconnect from the grid. And that's something that mostly only wealthier people can afford.

But what I think is going to be more and more interesting going forward, and maybe this event is going to spark a little motivation on that, is to better connect existing solar and additional solar that's going to come online, in a way that it can operate safely locally, either on PG&E's distribution network or independently.

One of the research projects that we're working on at the California Institute for Energy and the Environment and Berkeley is called the Ecoblock project, which is actually looking at a multi-customer microgrid for exactly this kind of scenario, where you can share the solar resources and share energy storage among multiple households on a city block."

However, the various potential improvements that can be made to our electrical grid-- underground power lines, synchrophasors, and even basic tree clearing around power lines-- are limited by a core issue: funding.

"I think the difficulty is always how much can we afford to pay and who is going to pay it," said von Meier. "That's really is the prickly question."

You can listen to the full NPR interview [here](#), and read the Berkeley News interview [here](#)!



Copyright © 2016 California Institute for Energy & Environment, All rights reserved.

Contact us at: connorclark@berkeley.edu

4th Floor, Sutardja Dai Hall, University of California, Berkeley, CA 94720

Want to change how you receive these emails?

You can [update your preferences](#) or [unsubscribe from this list](#)

This email was sent to <<Email Address>>

[why did I get this?](#) [unsubscribe from this list](#) [update subscription preferences](#)

California Institute for Energy & Environment · 448 Sutardja Dai Hall · University of California, Berkeley · Berkeley, CA 94720 · USA

