

Professor explores how cities can switch to low-carbon grid

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View of Boulder, Colorado. Credit: Hustvedt, via WikiCommons.

Although many cities across the nation have pledged to improve their energy sources to mitigate climate change, they are often stymied by reliance on an electric power industry fighting new policies at the local, state and federal level. A University of Kansas law professor has authored an article detailing innovative approaches of cities and communities to cut carbon emissions and how the efforts will affect energy governance in years to come.

Uma Outka, associate professor of law, authored "Cities and the Low-Carbon Grid," forthcoming in the journal *Environmental Law*. The article examines the evolution of cities and the modern electric grid,

legal context for cities' electric power, cites examples of cities making innovative transitions and argues that, increasingly, cities can influence the transition to a low-carbon energy sector.

Boulder, Colorado, is one such environmentally conscious town. More than a decade ago, the city was among the first in America to develop a local agenda for [climate change](#) mitigation and even offered support of the Kyoto Protocol for reducing greenhouse gas emissions, even though the United States did not sign the international treaty. Yet in 2013 city leaders realized they were dependent on investor-owned utility company Xcel, which provided more than 75 percent of the city's power through fossil fuels, primarily coal. To change that, the city is pursuing a public ownership model that would give it local control and flexibility in obtaining power from renewable sources.

"They have been totally dependent on the resource decisions Xcel would make," Outka said of Boulder. "Reading about that situation made me want to dig deeper into what cities could do on energy use and climate change. It's a varied landscape, and there's no one-size-fits-all solution, but I think this transitional moment for the electricity sector presents new possibilities that motivated cities can explore."

Boulder voters approved ballot measures in 2011 and 2013 to form a public utility. The city has since been in the process of acquiring generation and distribution infrastructure, while ending its partnership with Xcel.

Minneapolis, Minnesota, faced a similar situation when it realized its Climate Action Plan on cutting [greenhouse gas emissions](#) likely couldn't be met because the city's utility supplier generated the majority of its electricity from burning fossil fuels. The city determined for several reasons not to form a municipal utility, but it still found a way to make a change when it negotiated a new contract with provider Xcel, forming a

City-Utility Clean Energy Partnership designed to be a clean energy collaboration between the city and private utilities. The partnership has been widely touted as a "first-of-its-kind" innovation, Outka said.

However, like Boulder's approach, the Minneapolis partnership model will not necessarily be possible for every city to pursue.

"People will definitely be watching what happens in Minneapolis," Outka said. "They took advantage of the expiration of their contract and re-negotiated in an innovative way. The fact that there was an option for the city had to have had an impact in bringing the utility to the negotiating table."

Outka also shares examples of cities such as Burlington, Vermont, which has succeeded in securing 100 percent of its energy from renewable sources, and San Diego, a major city that has pledged to do the same within 20 years.

She also outlines strategies in use in other cities such as community choice aggregation. Under the approach, where authorized by state law, cities can choose electricity providers and are not limited to investor-owned utilities with territorial entitlement. Cities using the approach can leverage buying power by aggregating local load—possibly with other cities—to purchase electricity at lower rates. Depending on program design, cities may also be able to choose their generation sources while still receiving transmission and distribution services from their existing provider. Six states currently have community choice aggregation programs and at least six more are exploring the model.

Within five years of enacting its CCA law, Illinois had more than 600 communities participating, and average customers were saving 25 to 30 percent on electricity costs. By the end of 2013, more than 90 local governments in the state were using CCAs to purchase 100 percent

renewable energy for their communities, Outka wrote. States such as Ohio have had similar successes. The study also details community solar and wind/shared renewable programs. Through the programs customers can subscribe with the utility to buy a set amount of their power from solar energy or own or lease a share of remote solar or wind installations.

Both CCA and community power projects also have unique legal hurdles that can make them difficult for certain communities to enact. But, given the success of various models used by cities to transition to low-carbon models, cities across the country are learning that it can be beneficial to explore new ways to reduce fossil fuel-reliant power, and where necessary, advocate for state law changes to facilitate their goals, Outka said.

Outka recently secured a starter grant from The Commons at KU, which is funding a collaboration with Rachel Krause, assistant professor of public affairs and administration, and Ward Lyles, assistant professor of urban planning, all of KU, to further explore energy, climate adaptation and social justice. The researchers will lead a symposium from 9 a.m. to 3:30 p.m. Thursday, April 28, at The Commons featuring local and national speakers discussing social justice as it relates to the ongoing transition to low-carbon energy models.

"Cities have been leading forces for demanding change in the area of low-carbon energy, even though electricity is still one of the hardest issues for cities to influence," Outka said. "That is appropriate in an era when the majority of our population lives within cities and the success of those leading in the low-carbon transition offers examples for other cities that want to do more to drive change locally."

More information: Outka, Uma, Cities and the Low-Carbon Grid (April 1, 2016). Environmental Law, Vol. 46, No. 105, 2016. Available at SSRN: ssrn.com/abstract=2765125

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