Governor Newsom recently signed a bill (SB 1221) that lays the groundwork for a vital shift in California's clean energy transition. The bill– by Senator Dave Min, with support from key decarbonization advocates–will create a pilot program at the California Public Utilities Commission (CPUC) to designate up to 30 "neighborhood decarbonization zone" projects. In these zones, utilities can work together with communities to transition from building gas service to zero-emissions alternatives, including electrification and thermal energy networks.

That's exciting because if California is going to have a shot at meeting our climate goals, we're going to have to phase out burning fossil fuels where there are clean, electric alternatives. Buildings are one of the key sectors we will need to electrify.

As it stands now, most Californians are paying for two different sets of energy distribution systems to their homes: the electrical grid and the gas pipeline network. With tremendous improvements in heat pump and induction stove technology, we no longer need gas appliances the same way we once did. When our furnaces and water heaters burn out, many Californians are choosing to replace them with heat pumps, and the number is only expected to increase.

Unless this transition is managed thoughtfully, there is a risk of driving up costs for consumers, especially low-income and renter households. With more electrified heating equipment, the amount of gas consumed across the system will decrease, but the gas utilities will still need to recover the cost of maintaining their pipeline network. With the guaranteed returns for utilities, gas bills will go up for those remaining on the system. The only way for customers to ensure they won't bear these increasing gas costs will be to fully electrify and discontinue their gas service, which will only drive costs higher for those customers who are stuck on the gas system.

Meanwhile, as gas pipelines continue to age, costly repairs would be needed to keep the pipes in service. If approved by the CPUC, these costs would then be passed on to consumers (including a rate of return multiplier), meaning even higher costs will be spread among even fewer consumers. The bill impacts could be astronomical, especially for lower income communities and renters who have less flexibility to change their heating appliances. Gas utilities in California are expected to spend $43 billion on gas pipeline replacements between now and 2045, of which $20 billion could be avoided through targeted neighborhood electrification. These savings amount to $32,000 per customer, which would go a long way toward (and could in many cases fully cover) home electrification.

During the transition, though, some customers will remain on the gas system. The surest way to keep gas bills down for these customers is to decrease spending on gas system expansion and unnecessary pipe replacements. There are a couple of paths that can support these goals: (1) non-pipeline alternatives to gas line spending and (2) targeted neighborhood electrification.

A roadblock that can hinder these pathways is the utility "obligation to serve." As part of the traditional "regulatory compact" where utilities receive rights to operate as a monopoly in a given service territory, they must typically provide service to all customers in that region.

While a strong obligation to serve makes sense where a service is not fungible, as electric heating and cooking technologies improve, electricity can serve as a substitute for gas. When gas is no longer a necessity, it may no longer make sense to require gas companies to serve all customers in their service territory.

Indeed, several other states (including Massachusetts, Colorado, and New York) have begun similar pilot programs to explore targeted neighborhood decarbonization, as well as the possibility of curtailing the obligation to serve. Other states are limiting the amount gas utilities can spend in building out new gas pipelines.

These neighborhood pilot projects are an initial step in a long road toward decarbonization of our building sector. Thoughtful planning, robust community engagement, strong regulator oversight, and a deep commitment to equity will be essential to ensuring an effective and equitable outcome. Selection of which neighborhoods to prioritize (based on technical considerations, cost, and equity) will be a critical part of the process, as will determining how to approach the process in areas served by dual-fuel versus gas-only utilities. Engagement in the CPUC process implementing the bill will be vital to ensuring good outcomes.

Ultimately, the full transition from gas to electrification is a process that will likely take decades, so it's essential to begin the process now. SB 1221 is an important step in this direction.