Driving ZNE to Scale

By Ellen Steiner

Opinion Dynamics is working on a seminal study with the California Public Utilities Commission (CPUC) to identify barriers to achieving zero net energy (ZNE) in state buildings, both at the individual facility level and at scale to meet the State of California's ambitious ZNE goals. Buildings are a primary solution for meeting worldwide energy and climate change goals, as buildings consume almost half of the energy produced and greenhouse gases (GHG) emitted in the United States. Despite common assumptions that primary barriers may be related to cost premiums or technology challenges, our work focused on state agencies has refuted both. Our research indicates that ZNE buildings can be built for the same cost as standard buildings in specific geographies for specific building types. Our research also indicates that ZNE can be and has been achieved with current "off the shelf" technologies and building construction practices. Barriers to large-scale adoption are systemic in nature: a grid not designed to be dynamic, tariff structures that reward existing technologies and the status quo, challenging funding and procurement processes, and legislation and policies that are at odds with the required speed of change in this industry. In this paper, we discuss our findings from in-depth interviews with over 80 stakeholders. Using this research as a foundation, we outline a pathway to address these challenges going forward to make highly efficient ZNE buildings more pervasive, and more relevant in addressing climate change moving forward.