# Event Recap

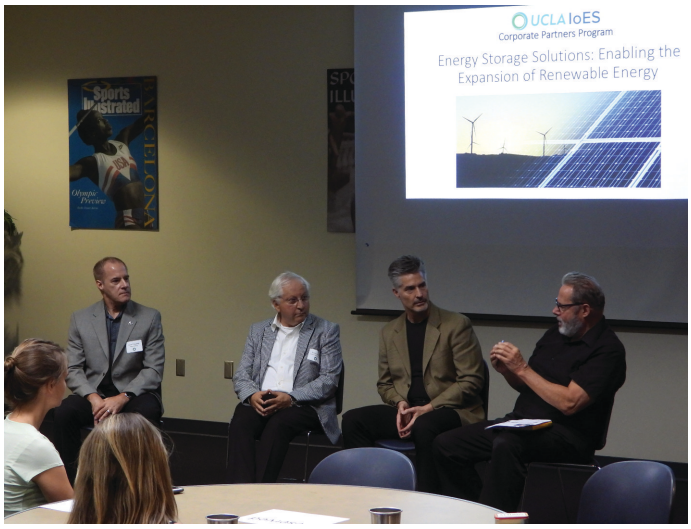
## Energy Storage Solutions: Enabling the Expansion of Renewable Energy

On October 23rd, the Corporate Partners convened at our annual fall event for a discussion on the renewable energy transition, including the implications of regulatory targets and the potential for energy storage solutions. Panelists included leadership from Natron Energy, SUMEC North America, and Energy Everywhere, with IoES Director **Peter Kareiva** as the moderator. Highlights of the discussion are captured below.

**Paul Meissner**, CEO of Energy Everywhere, kicked off the evening with a vignette illustrating the difficulties facing industrial operations in areas with unreliable electricity access – including both immediate disruptions to production caused by blackouts, and spiked electricity costs once power is restored. Microgrids (consisting of local generation, storage, and control systems), he explained, can provide a solution to increase reliability and reduce costs of electricity, particularly in remote systems such as on islands. However, construction of microgrids is often limited by access to financing – with high interest rates in developing contexts making it difficult for clients to manage capital costs.

**Alex Levran**, CEO of SUMEC North America, focused on the legislative goal of 100% renewable energy by 2045, arguing that this goal is achievable based on the dramatic growth trends of renewable installations. Adoption of solar technologies has been driven by technological advancements, improved economics, and the ubiquitous nature of solar energy access compared to other more geographically limited and variable renewables like wind. He notes that a large-scale energy transition requires investment synchronized with demand; corporations such as Google and Facebook have already invested millions to develop renewables to power their operations both onsite and in local utilities. Alex concluded that while technologies are available to support the 100% renewables target, success will hinge on both investment and methods of implementation.

**Jack Pouchet**, VP of Natron Energy, countered that existing renewable targets are not achievable, and anticipates legal interventions by environmental groups to forestall large-scale renewable energy installations. For instance, while industry has become more efficient at recycling and limiting pollution from lead-acid batteries, rare earth metals incorporated into wind energy systems and electric vehicle batteries provide a potential source of




environmental risk, underlining a need for safer alternatives. Getting ahead of the environmental implications of renewables development will allow us to avoid trying to solve one problem by creating another. Before we can meet 2045 targets, he argues, we need to find ways to be sustainable in renewables manufacturing and energy storage and be aware of the unintended consequences of our decisions.

The question and answer period that followed touched on several themes, including the challenges facing renewable goals ranging from increased use of electronic devices and platforms, to education of the public, and issues with government intervention strategies. The panelists agreed that designing efficient systems is key, both for residential and commercial energy use, to reduce the overall amount of electricity we need renewable sources to produce. Some potential solutions to the problem of utility scale energy storage were discussed, including conversion of excess energy to hydrogen fuels, pumped hydroelectric storage, and compressed air systems. Both significant financial investment and real-time grid monitoring technologies were identified as elements that can help to implement the solutions discussed.

*If you were unable to attend this event but would like to learn more about this topic we will be hosting a related event in the spring that will feature presentations of student research based off of research questions collected from attendees of this panel discussion and our Corporate Partners.*