Challenges and Opportunities in Energy Storage

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As decarbonized energy technologies such as wind and solar become preferred economic and social choices for new generation capacity, the challenge of intermittent production rates is often balanced by using energy storage, and in many cases, batteries. Like wind and solar energy, battery technology has shown rapid technological advances and cost declines, yet the costs and usage models remain challenge for many of today's technologies. Batteries are also an essential element in decarbonizing the transportation sector. This talk will cover many of the challenges and opportunities in the evolving energy future and highlight not only latest developments in energy storage but system wide challenges and alternative approaches.

About Mark Hartney:

Dr. Mark Hartney is an advisor to Breakthrough Energy Ventures with a focus on European activities. Mark also holds a part time position as the Chief Technology Officer and Division Director for Applied Energy at SLAC National Accelerator Laboratory. Mark is also a Precourt Energy Scholar with the Stanford Precourt Energy Institute.

Prior to his role at SLAC, Mark served at the Department of Energy as one of the founding program directors of ARPA-E where he led efforts in carbon capture technology, (the IMPACCT program), as well as a number of other projects in wind technology, energy efficiency, biofuels and lighting.

Before going to ARPA-E, Mark served as the Chief Technical Officer for FlexTech, an industry-government partnership focused on R&D for flexible electronics. He has also served in technical management roles at various startups, including Silicon Image, dpiX; and has held staff positions at the Defense Advanced Research Projects Agency (DARPA), the White House's Office of Science and Technology Policy (OSTP), MIT Lincoln Labs and AT&T Bell Labs.

Mark is a graduate of MIT (B.S. and M.S.) and earned his doctoral degree at University of California at Berkeley, all in chemical engineering.

See https://energy.stanford.edu/people/mark-hartney and http://www.b-t.energy/.