Scale: the Next Challenge for New Energy Solutions

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Abstract
New energy technologies have entered the market now, with meaningful energy efficiency improvements in products and buildings and $200B in annual global investment to deploy clean energy facilities. A new generation of energy technologies is brewing in labs today as well. This is just a start. What will it take to scale these capabilities to provide economic, secure, clean energy for the decades ahead? Technologists, policy makers, companies, and financiers all seek to address this question, but few significant changes will happen at scale without integrated effort. One example is scaling renewable electricity generation. Lower cost generation and storage technologies, fundamental changes in the grid, new utility incentives and regulation, effective tax and siting policies, trillions of dollars of financing, a workforce with new skills, and capable industries will all be needed if renewables are to become a core source of electricity. This presentation will describe today's new energy landscape, outline the necessary conditions for scale-up, and propose an effort to lay the foundations for this transformation in our energy systems.

Biography
Arati Prabhakar’s focus is scaling new energy solutions. She chairs the Efficiency and Renewables Advisory Committee (ERAC) for the U.S. Department of Energy and is a member of the National Academies' Science Technology and Economic Policy (STEP) board. She started her career in Washington, DC, on a Congressional fellowship with the Office of Technology Assessment. She then served from 1986 to 1993 at the Defense Advanced Research Projects Agency (DARPA), first as a program manager and then as founding director of the Microelectronics Technology Office. In 1993, President Clinton named Arati the director of the National Institute of Standards and Technology (NIST). Arati received her BSEE from Texas Tech University and an MSEE and a Ph.D. in Applied Physics from the California Institute of Technology. She is a Fellow of the Institute of Electrical and Electronics Engineers (IEEE) and a Caltech Distinguished Alumna.

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