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## Achieving cheap clean energy for all in the 21<sup>st</sup> Century? RAJAN GUPTA, Los Alamos National Laboratory

Energy is essential for modern life and is a critical resource that we take for granted. Unfortunately, we are increasingly confronted by many unsettling questions: Is there enough cheap oil and gas remaining and should we start changing our life styles towards energy efficiency? What will be the price of oil and gas next year and will we face shortages? Are rising prices reflective of greed and manipulation or geopolitics or of real constraints? Will renewable sources provide a significant fraction of our energy needs? Is global warming already happening and is it a result of our "addiction to oil"? If the answer to these is "yes", then what can we, as individuals, do to help ourselves, the nation, and the world? This talk will attempt to answer these questions by examining the global oil, gas and other resources, emerging constraints and opportunities, and geopolitics.