Nitrogen-Based Alternative Fuel

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There is no doubt that large scale integration of renewable energies, such as solar and wind, is immensely important; yet these energy resources are intermittent and their implementation introduces considerable uncertainty into electric power system operation. Energy storage media and energy carriers are the missing links required for a sustainable and robust energy system. It is, perhaps, the most important energy-related challenge that our society will be facing during the next decades.

The chemical bonds within fuels are the most attractive form of large scale energy storage due to the relative high energy density and their transportability. Nature uses photosynthesis to convert sunlight into useful chemical energy in the form of biomass, and the human society discovered the convenience of utilizing chemical fuels long ago.

Here we will present a research of a sustainable nitrogen-based alternative fuel for energy storage.